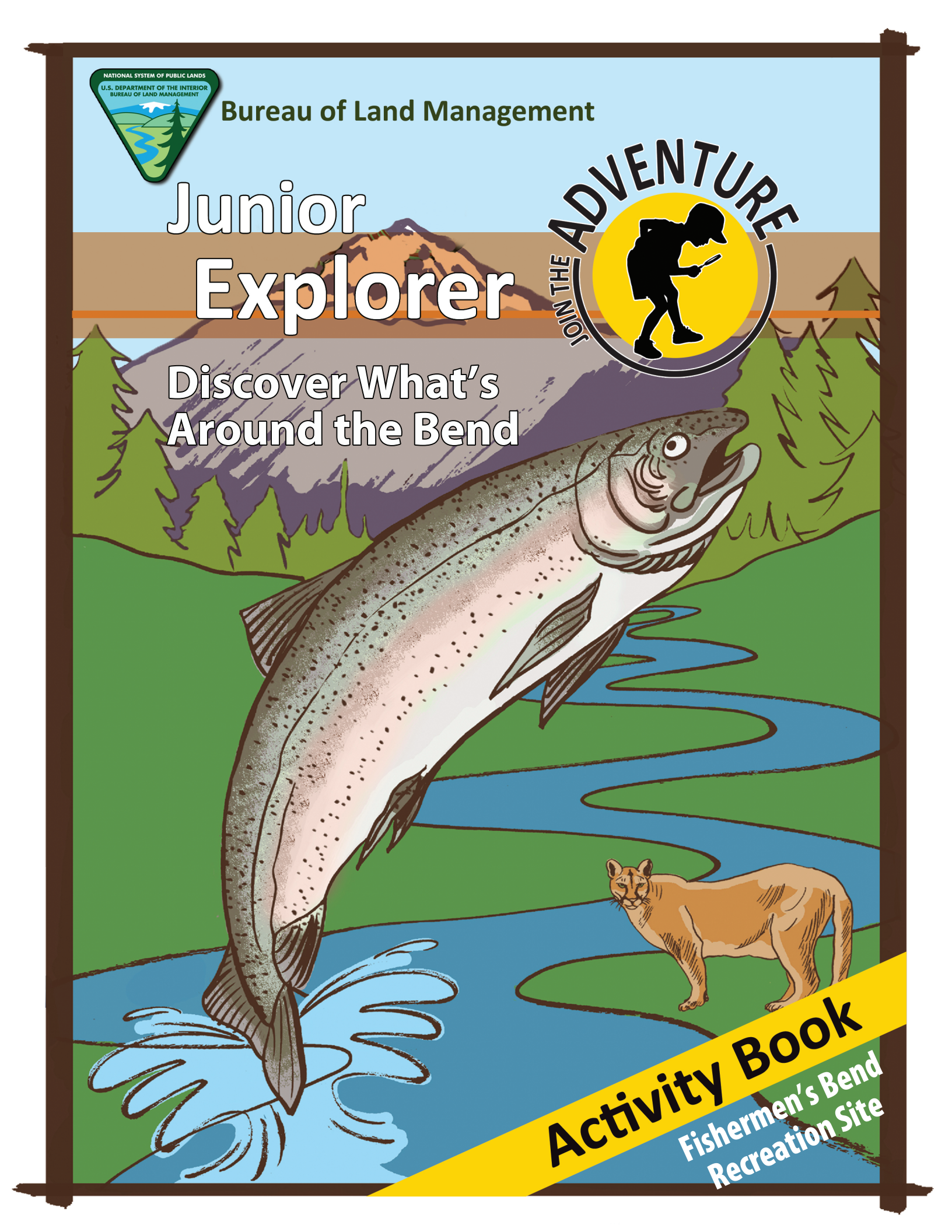

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Bureau of Land Management
Junior
Explorer
JOIN THE ADVENTURE
Discover What's
Around the Bend
Activity Book
Fishermen's Bend
Recreation Site

Public Lands

Belong to You!

The Bureau of Land Management (BLM) is a federal government agency that takes care of more than 245 million acres of land. Most of these lands are in the western part of the United States. These lands are America's public lands, and they belong to all Americans. These public lands are almost equal in area to all the land in the states of Texas and California put together.

The BLM manages public lands for many uses. The lands supply natural resources, such as coal, oil, natural gas, and other minerals. The lands provide habitats for plants and animals. People enjoy the big, open spaces on the lands. The lands also contain evidence of our country's past, ranging from fossils to Indian artifacts to ghost towns.

Junior Explorers

BLM's Junior Explorer program helps introduce young explorers like you to the lands and resources that the BLM manages. This "Discover What's Around the Bend Activity Book" focuses on nature and renewable natural resources around at Fishermen's Bend Recreation Site.

Have fun exploring and protecting America's public lands!

BLM/OR/WA/GI-13/0049+1122.32

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

WHAT DOES IT MEAN TO BE A JUNIOR EXPLORER?
AT FISHERMEN'S BEND RECREATION SITE
WE HOPE YOU LEARN MANY THINGS AND SHARE THEM WITH OTHERS!

To the left you'll see the word **EXPLORER** lengthwise and the words that go with each letter widthwise. While here, we hope you:

Enjoy

- **Enjoy** the park and the many opportunities for fun!

E**X**amine

- **Examine** and inspect nature in detail. Look carefully and you may be surprised at what you find.

Protect

- **Protect** the land. Remember, plants grow by the inch, but die by the foot! (That means <u>your</u> foot, so please only use paths and trails).

Learn

- **Learn** a new skill or gain experience from activities in this booklet and at the park. Never stop learning!

Observe

- **Observe** your surroundings. There is so much in nature to see, smell, feel and hear if you pay close attention.

Roam

- **Roam** the meadows, fields, woods. Spend some time freely moving around the park (but remember to never roam alone!).

Educate

- **Educate** yourself. Gain new knowledge or information and share it with others.
- **Reflect** on your experiences here at Fishermen's Bend. Make memories to treasure for a lifetime!

Cover Illustration by: Adriana Yugovich

WELCOME JUNIOR EXPLORER

What do you think it means to be an explorer?

_____

_____

_____

At Fishermen's Bend, an "*Explorer*" is a person who is discovering our natural world. A "*Junior Explorer*" is a young person who wants answers to questions from nature.

This booklet is aimed at young people ages 5-10, however anyone is welcome to use our booklet to explore Fishermen's Bend Recreation Site. Parents, Grandparents, and friends are encouraged to help with the activities found in this booklet.

Some of the activities you can do anywhere; others will require you to visit specific areas of the park to complete (these are called on-site activities). At least 6 activities need to be completed, including 2 onsite activities, to become a certified BLM Junior Explorer.

On the back page you will find the completion certificate. If you have time, please bring your completed booklet to the office during regular hours to have your certificate signed by an official.

Have fun!

SCIENTIFIC STUDIES AT FISHERMAN'S BEND

At Fishermen's Bend Recreation Site, the Junior Explorer activities are focused on many of the sciences in nature. Below is a list of some of the scientific studies you will see in this booklet or find in the park's activity schedule:

Astronomy – the observation, calculation, and interpretation of the universe beyond the earth.

Biology – the animal and plant life of a region or place.

Botany – the plants of a particular region or place.

Dendrology – the biology of trees.

Ecology – the relationship between living things and their environments.

Entomology – the investigation of insects.

Geology – the origin, history, and structure of the earth and the materials of which it is made.

Mammalogy – the examination of mammals, animals with self-regulating body temperatures, hair, and milk producing females.

Meteorology – the discussion of atmospheric phenomenon (weather).

Ornithology – the characteristics of birds.

Potamology – the study of rivers.

NATURE CENTER SCAVENGER HUNT

ONSITE ACTIVITY #1

The Nature Center possesses a wealth of information just waiting to be discovered! Explore the Center to learn about nature in and around Fishermen's Bend. Then complete each question; the answers can be found within the Nature Center.

Q: There are many ways invasive weeds can be spread. Can you identify at least three?

_____

_____

_____

Q: In what year did Fishermen's Bend open? _____

Q: What animal holds the world's record for having the most names? _____

Q: This bird of prey makes a sound often heard in movies. It makes a two-to-three second hoarse, rasping scream, described as kree-eee-ar, which begins at a high pitch and slurs downward. What is this bird?

_____ _____ _____

Q: What large mammal frequents Fishermen's Bend in the winter? _____

Q: There is a saying that warns hikers what to look out for in Pacific Poison Oak. That saying is _____ of _____ _____ them ____.

Q: What small mammal is about the size of a mouse and loves to eat mosquitos? _____

Q: What are the names of the 3 loops in the Park?

_____ _____ _____

Q: What is the name of the river Fishermen's Bend Recreation Site is located next to?

_____

GEOLOGY ROCKS

ONSITE ACTIVITY #2

To complete this activity, you will need to go to the sandbox next to the Educational Center in Camp Loop.

As a Junior Explorer, one of the great things to learn more about is our planet earth. Have you ever wondered how rocks were made? There are many different kinds of rocks, but all can be put into one of three specific types of rocks. These are: Igneous, Metamorphic, and Sedimentary.

Each kind of rock is made differently.

1. *Igneous* rock is made as magma cools and forms crystals in the rocks. (Magma is the same thing as lava from a volcano, but it is still underground.) Examples of igneous rocks are basalt, granite, obsidian and pumice.
2. *Metamorphic* rock is made when igneous or sedimentary rocks get hot deep inside the earth. After some time they "cook" and change from the original rock into another type of rock because of the heat and pressure of the earth. Examples of metamorphic rocks are marble, quartzite, schist and slate.
3. *Sedimentary* rock is formed from sediment in rivers and lakes building up over years and/or broken pieces of rocks and debris being forced together due to immense pressure over the course of thousands of years. Examples include chalk, coal, flint and limestone.

Besides actual rocks, we also have minerals. In our sandbox, there are all three types of rocks, as well as calcite, which is a type of mineral.

ACTIVITY: Use one of the sifters at the sandbox, or you can use your hands, and find ***ONE*** piece of rock and then see if you can identify it. If you need help, ask one of the rangers or hosts for assistance.

Write what kind of rock you found below.

_____

FUN WITH BUGS - ENTOMOLOGY

What is your favorite fruit? _____

What is your favorite color of flower? _____

Without "good" bugs (insects) to pollinate we would not have fruit, flowers and many other plants and trees. In fact, we could say the earth would die without them!

Have you ever been bit by a mosquito? Yes/No

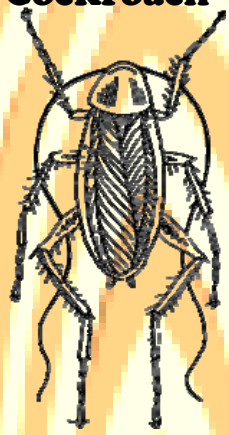
Have you ever seen your garden eaten up by aphids? Yes/No

These are examples of insects that can be harmful.

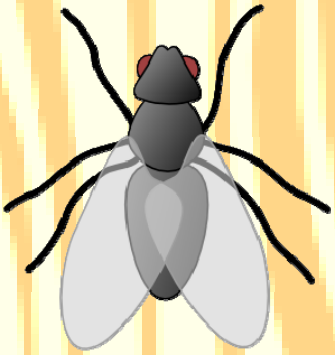
Below are pictures of several insects. Put a circle around the good bugs and an X through the bad ones.

Ladybug

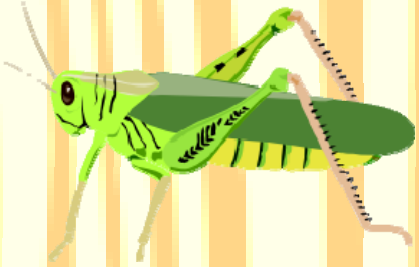
Cockroach



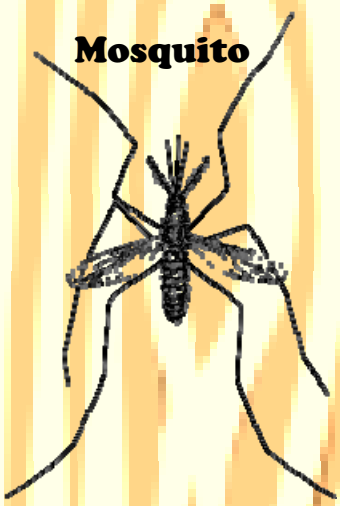
Housefly



Grasshopper



Mosquito



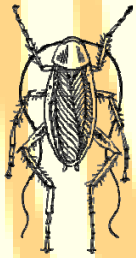
Butterfly

FUN WITH BUGS - ENTOMOLOGY

(continued)

So how did you do?

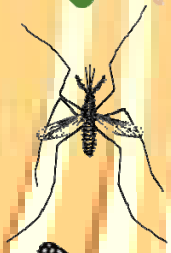
The ladybug should have a circle. A ladybug is good because it eats aphids and other plant eating bugs. Farmers and gardeners love ladybugs. A ladybug will live for 3 to 6 weeks and can eat up to 5,000 bugs in that time!



Did you put an X on the cockroach? If so, good for you. Cockroaches bring several types of diseases into the home and they can also cause allergies. If instead you circled the cockroach, you aren't totally wrong. Cockroaches do help pollinate flowers and plants.

The housefly gets an X. Just like the cockroach, the housefly can carry diseases and they can really be annoying. But if you circled him, it's not all bad. Like the cockroach, the fly pollinates *AND* they are fairly good at cleaning up a mess.

The grasshopper is correct with either a circle or an X. There are between 10,000 to 20,000 different species of grasshoppers in the world. All of them only eat plants. Some can be harmful because they destroy farm crops, so they would get an X. However, other types eat grass and they provide fertilizer for the soil, so a circle is right, too! What's even more interesting is not only are grasshoppers a great food source for birds, but in many parts of the world, they are a common food source for people too!



The mosquito should get a big X. Now it is true that the male mosquitos are great pollinators, but the female mosquitos bite—they need blood to lay their eggs! The mosquito can spreads diseases, so be sure to wear your mosquito repellant when you are in the woods!

The butterfly is probably the easiest of them all—hopefully you circled this one! Not only is the butterfly beautiful to look at, but when it lands on a flower, pollen gets on its legs and wings. Then when it moves onto the next flower, it takes the pollen with it so that the flowers are pollinated. What a great bug!

Pollinate **– Pollen grains are transferred from one plant, flower, or tree to another so that a seed may be made.**

CARING FOR YOUR PUBLIC LANDS
REDUCE, REUSE, RECYCLE
ONSITE ACTIVITY #3

Fishermen's Bend Recreation Site is managed by the Bureau of Land Management (BLM). One of the agency's goals is to keep the park nice for many, many years to come. This can only happen if ***EVERYONE*** does their part. How can you help?

Reduce – you can reduce the amount of waste in the park by bringing less things that will have to be thrown away, such as plastic or paper bags. Also, you can use the trails instead of walking across plants. Can you think of any other ways?

Reuse – when you come to the park (and even at home) think of all the things you can use that are reusable, like a metal water bottle you can refill instead of plastic bottles from the store. Maybe you can help mom or dad pack cardboard boxes or reusable grocery bags with your camping equipment instead of throw away bags. What other ways can you think of?

Recycle – you will see Recycle Stations all around the park. All of the items campers bring to the recycle areas get recycled, but all of the items with deposits are picked up by the local senior center to support their programs.

ACTIVITY: Now for your challenge – go to a Recycle Station closest to where you are and write (or draw) what items go into each bin in the area below. Then, for the rest of your stay here at the park, help the people in your group recycle at the recycle station!

TREES, TREES EVERYWHERE - DENDROLOGY

ONSITE ACTIVITY #4

While here at Fishermen's Bend, it is hard not to notice that there are trees all around you. Have you taken the time to really look at them? There are many different varieties: black cottonwoods, Douglas firs, several kinds of cedars, hemlocks, maples and more!

All trees have traits that are alike. Every living tree must have roots, a trunk and branches. There are two main types of trees: 1) conifers, which have needles and cones and stay green all year round; and 2) deciduous, which have a broadleaf and shed their leaves in autumn for the winter (and grow new ones in the spring) and a type of seed instead of a cone.

You can tell one tree from another by the type of leaf it has, what type of seed (or cone) it produces and what its bark looks like.

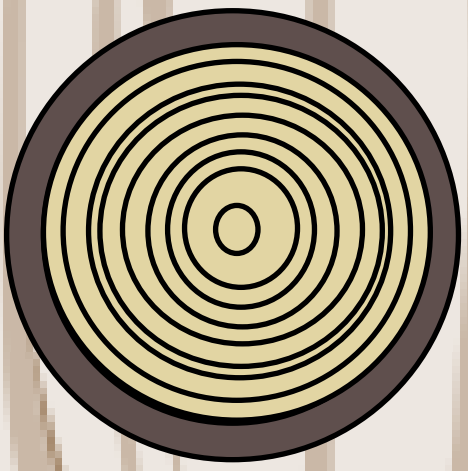
ACTIVITY: Are you ready to go exploring? With an adult, go on the trail to find the tallest cottonwood tree in the park. If you need directions, you can ask one of the camp hosts or rangers. When you get there answer the questions below and draw a picture of the tree.

In what year was the cottonwood tree measured? _____

How tall was it? _____

Do you think it has grown? _____

Is the cottonwood tree a conifer or a deciduous?_____



THE AGE OF A TREE

How can you tell the age of a tree?
The best way is to count the rings. Can you count how old this tree is? _____

Do you see that some of the rings are thinner than others? Why do you think that might be?

There are some years that the tree does get as much water, or there may have been a fire, so the tree does not grow as well and the ring is thinner. When a tree does have a good year where there is plenty of water, the ring will grow thicker.

In Oregon, trees are very important. What are some of the reasons why you think trees might be important? _____

_____

What do you think could happen if trees were cut down and never replanted? _____

_____

Can you think of some things you use everyday

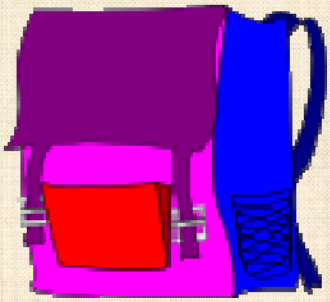
That are made of wood?_____

_____

Photos Courtesy of Canyon Life Museum

Did you know that there has been logging here in the Santiam Canyon since the late 1800s? Some of the most productive forests in the world are managed by the BLM here in western Oregon. The timber and wood products from these forests provide jobs and important materials used to make houses, furniture, as well paper, pencils and many more useful things. They also contribute to the clean air we breathe and provide scenic beauty for recreation, and habitat for wildlife. If logging occurs on public lands, the trees are replanted to help maintain and protect these important forestlands.

LET'S TAKE A HIKE!



When we go hiking, a good explorer knows it is important to be prepared. Can you list the things you should always bring along in your backpack? They are scattered around the page. The first one is filled in to get you started.

1. Insect Spray
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Answers in any order: 1.) Insect Spray, 2.) Compass, 3.) Water, 4.) First Aid Kit, 5.) Map, 6.) Whistle, 7.) Sunscreen, 8.) Snacks, 9.)Jacket or Sweater, 10.) Hat or Hood on Jacket

USE YOUR SENSES - A NATURE WALK

ONSITE ACTIVITY #5

Explorers use their senses to know and observe their surroundings. This activity will require you, as a Junior Explorer, to use four of your senses. As always, please make sure you bring along an adult to go out onto the nature trail!

1. Go to one of the following locations on the nature trail; circle the one you chose:
   A. A bridge
   B. The Bird Blind
   C. The River View Lookout

2. Use the lines below to write down your answers to the following questions:

What do you hear?

_____

_____

_____

_____

What do you see?

_____

_____

_____

_____

What do you feel?

_____

_____

_____

_____

What do you smell?

_____

_____

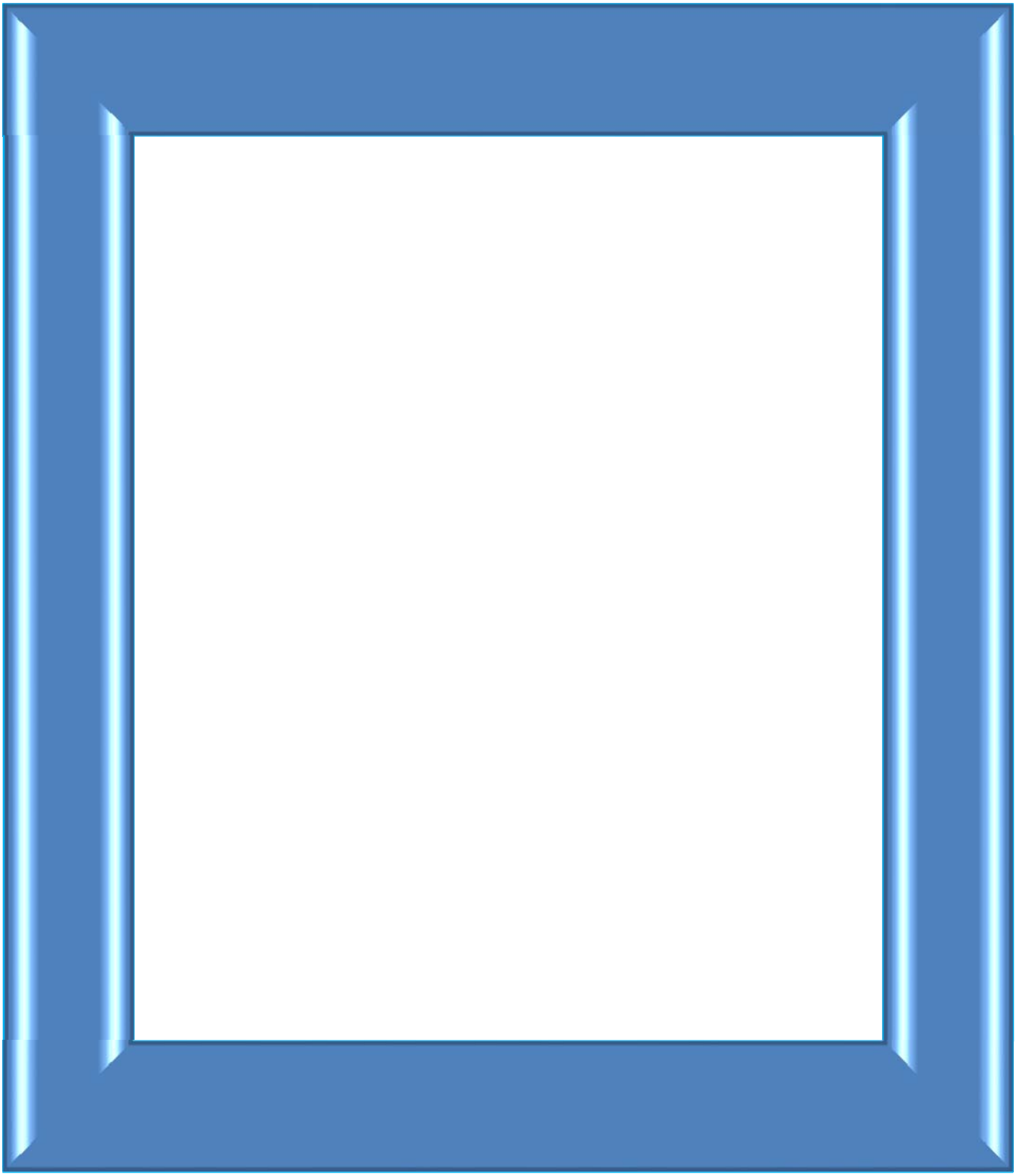
_____

_____

USE YOUR SENSES - A NATURE WALK

(continued)

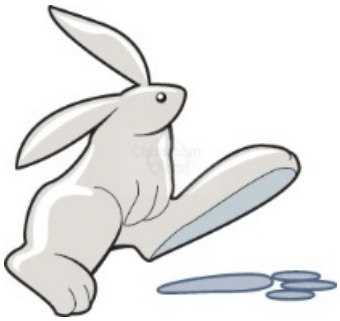
Take your nature walk notes back to your campsite or to the Educational Center and draw a picture of what you heard, saw, felt, and smelled in the space below:



WILDLIFE WORD SEARCH - MAMMOLOGY

Tracks help biologists follow the movements and habits of wildlife. They can also help determine what type of animal has been where you are. The Nature Center has a cement casting of tracks of many different animals that live in and around Fishermen's Bend. Below you will find a word search of some of these animals.

Good luck!



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

Look for these words:

BEAR	BOBCAT	CHIPMUNK	COUGAR	CROW
DEER	DUCK	ELK	GOOSE	RABBIT
SKUNK	SQUIRREL	TRACKS	WOLF	

Animal Tracks

Many different animals live in and around Fishermen's Bend. One way we know what animals have visited the park is by the footprints they leave behind. Write the animal's name from the box below near the matching track. Did you find any of these tracks while hiking our trails?

_____ _____ _____

_____ _____ _____

Skunk	Deer	Raccoon
Cougar	Squirrel	Black Bear

FISHERMEN'S BEND EDUCATION PROGRAMS

ONSITE ACTIVITY #6

Throughout the summer, Fishermen's Bend Recreation Site offers many different types of educational activities. Stop by any of the restrooms to see what is going on during your stay and plan to attend one of the programs.

In the space below, write or draw what you did at the program.

If you come at a time when there is no program, write down or draw an idea for one that you would like to attend from what you have learned during your visit here.

THE NIGHT SKY - ASTRONOMY

As a memory aid, use the first letter of each word to make a sentence to help you remember the names of the planets. For example, Max Ventured East Making Jumps Suddenly Up North.

Now Junior Explorer, you try. Make a sentence using the first letter of each planet in the order it appears in our galaxy. Be creative and have fun. The first letter is filled in for you.

M_____ V_____ E_____

M_____ J_____ S_____

U_____ N_____.

Mercury

Venus

Earth

Mars

Jupiter

Saturn

Uranus

Neptune

To see the night sky best, never use a bright flashlight. Instead bring a red lensed flashlight, this way your eyes adjust to the darkness and you can see more in the vast universe above.

Home Sweet Cave

Bats spend daylight hours sleeping in caves, crevices or trees until night, when they emerge to hunt insects.

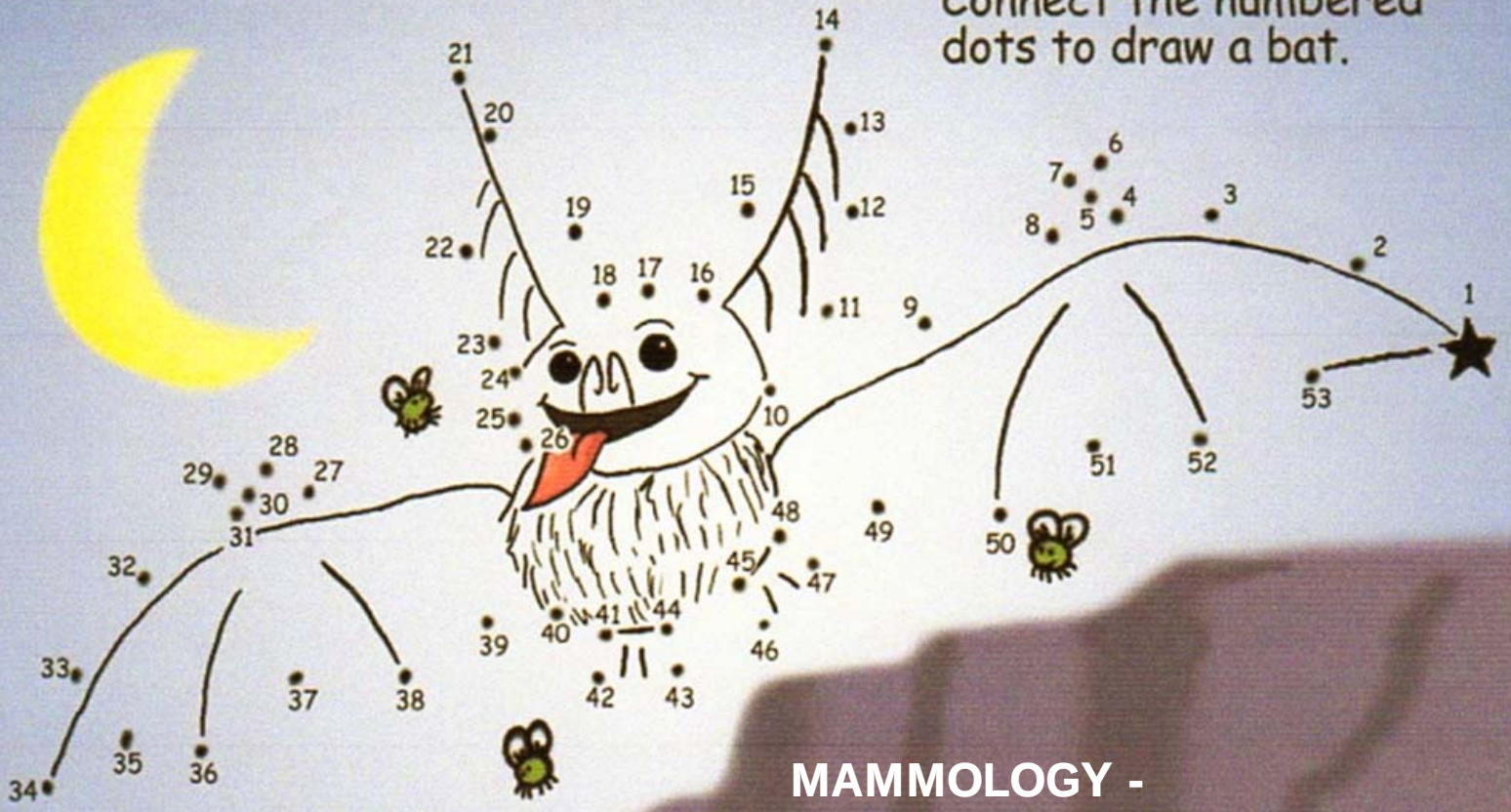
Once people thought bats were birds without feathers. Now we know bats are mammals because:

1. Bats are warm blooded
2. Bats nurse their babies with milk
3. Bats have fur

Bats are the only mammals that can fly. Their wings are made of two thin layers of skin stretched over their arms and long fingers. If we had fingers like a bat they would be longer than our legs!

The scary stories about bats are not true. When you see a bat, say "Thank you, friend." Bats eat hundreds of insects each hour. Without bats we would be swatting at more bugs!

Connect the numbered dots to draw a bat.



MAMMOLOGY -

Now you can be "batty" for bats!

BIOLOGY BINGO

ONSITE ACTIVITY #7

To do this activity, you will need to take a short ¼-mile hike along the Nature Trail. As you walk along, read aloud one of the squares and try to find the things that match the description. After you discover something, touch and smell the object as a way of finding out more about it and then put an X on its square.
When you have a straight line across, down, or diagonal—you win!

Touch Something Rough	Smell Something Fruity Smelling	Listen for Birds Singing	Touch Something Wet	Touch Something Smooth
Listen for Leaves Rustling	Touch Something Pointy	Touch Something Crumbly	Smell Something Sour Smelling	Listen for Twigs Snapping
Listen for Water	Smell Something Flowery	Free Square	Smell Something Pine-like	Touch Something Squishy
Listen for Animals Moving	Smell Something Sweet	Smell Something Bad	Touch Something Soft	Touch Something Hard
Touch Something Dull	Listen for Wind Moving Things	Listen for Insects Buzzing	Touch Something Bumpy	Listen for Birds Flying

What's Around the Bend

Junior Explorer

CERTIFICATE

As a Bureau of Land Management Junior Explorer, I promise to:

- Do all I can to help preserve and protect the natural and cultural resources on our public lands,
- Be aware of how my actions can affect other living things and the evidence of our past,
- Keep learning about the importance of nature and our heritage, and
- Share what I have learned with others!

_____

Junior Explorer Signature

_____ _____

BLM Official Signature Date


NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
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