



United States Department of Agriculture

JUNIOR FOREST RANGER

ACTIVITY BOOK



Forest
Service

Pacific Southwest
Region

R5-RG-271

June 2017

Welcome to your national forest!

This activity book will help you discover some of the fascinating and fun things about a national forest. Together with an adult, a friend or even by yourself you can earn a Junior Ranger certificate. All you have to do is:

- ♦ Complete as many pages as your age
- ♦ Fill out the evaluation and certificate
- ♦ Bring this booklet to any national forest visitor center or Ranger District office
- ♦ Have the ranger check over your answers and give you a certificate

Good luck, have fun, and enjoy your national forests!

About the National Forests in Region 5

The Pacific Southwest Region (Region 5) of the U.S. Forest Service manages 20 million acres of national forest land in California and assists the State and Private forest landowners in California, Hawai'i and the U.S. Affiliated Pacific Islands. Eighteen national forests are located in Region 5.



Leave It as You Found It

Please observe and enjoy nature in its own environment. Take only photographs and make sketches as souvenirs! Please practice the Leave No Trace principles while you are here.

Leave No Trace Principles

- ♦ Plan Ahead and Prepare
- ♦ Travel and Camp on Durable Surfaces
- ♦ Dispose of Waste Properly
- ♦ Leave What You Find
- ♦ Minimize Campfire Impacts
- ♦ Respect Wildlife
- ♦ Be Considerate of Other Visitors



For more information visit the kids section of the Forest Service website at www.fs.fed.us/learn/kids or scan the code to the right with a smart device.



This booklet was created for you. Enjoy it!

Acknowledgements

Huge thanks to Chris Bishop, Errin Shoop, Marcia Smith, Becky Peterman, Rebecca Oreskes, Jenny Young, Public Services Team, Dick Dow, Erin Hollingsworth, Nancy Propfe, Clare Long, and Region 5's Mario Chocooj and Tim Williams for all their help in creating this activity booklet.

Special thanks to Juliette Watts for her illustrations used throughout this booklet.

Cover Artwork: Illustration by Juliette Watts inspired from Forestry Clipart, Vol. III; produced by USDA Forest Service, Southern Region, Public Affairs Office

Komika Text: Main font used, thanks to apostrophiclab.com and/or Vigilante Typeface Corporation.

DID YOU KNOW?

A woodpecker represents self-discovery in the animal world. Look for the woodpecker throughout the pages and the "Did You Know" section. We invite you to be like the woodpecker and discover for yourself the wonders of your national forests.

My Nature Journal

Today's date is:

The weather today is:

(Example: sunny, cloudy, rainy, snowing)

The temperature is: °F

The temperature is:

I am at the:

National Forest.

(Forest or Unit name)

Something special that I observed outside today was:

(Write as much as you can using descriptive language)

Here is a sketch of what I observed:

Tree crickets are called nature's thermometer because temperature directly affects their rate of activity. Listen for a cricket and count the number of chirps it makes in fifteen seconds; add 37. The sum will be in Fahrenheit temperature.

**DID YOU
KNOW?**



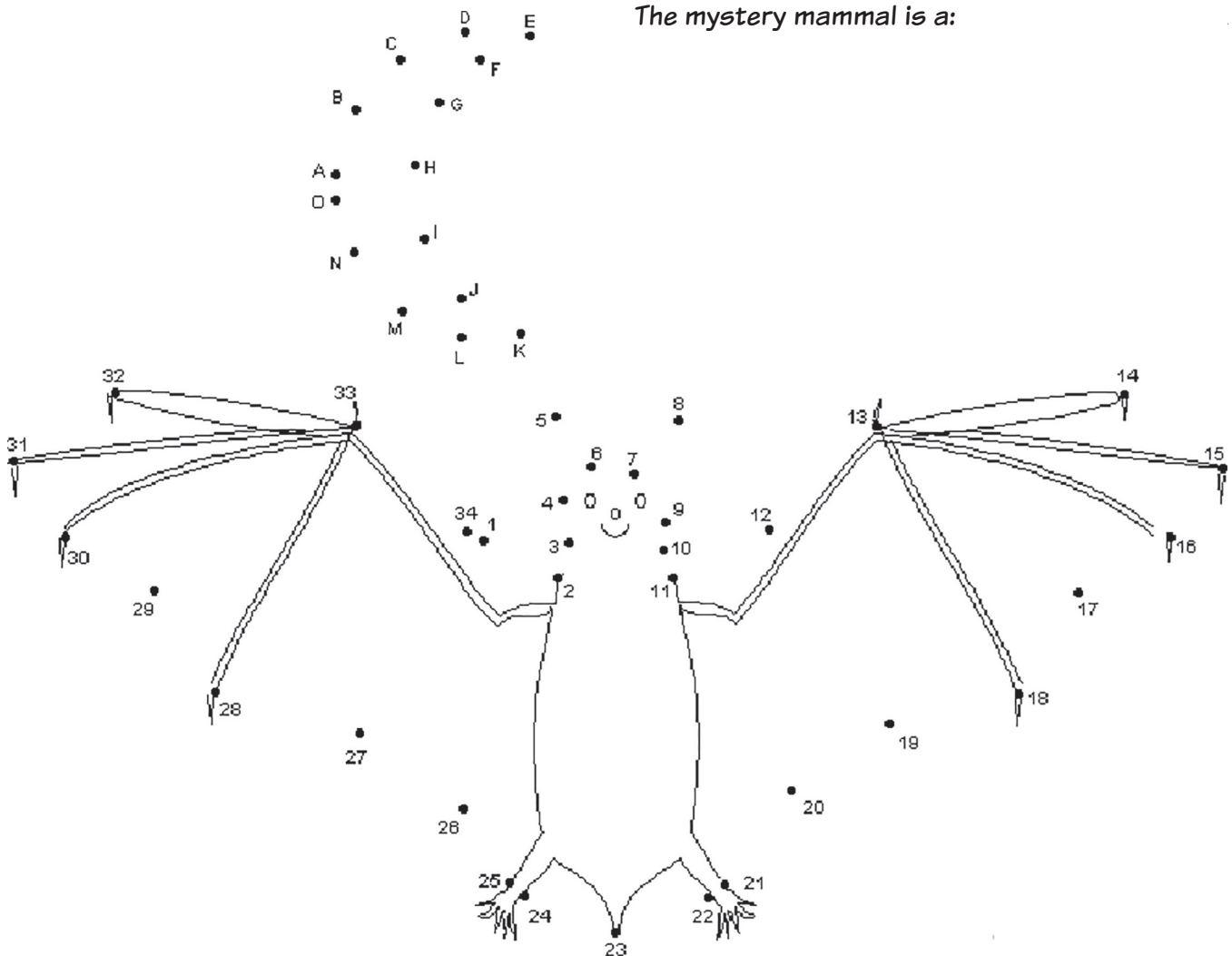
Mystery Mammal!

Read the clues and then connect the dots to discover the identity of this mystery mammal.

Clues

- ♦ This animal is a natural form of pest control and can eat up to 10,000 insects in an hour. Without them, campers, gardeners, and farmers would have many more problems with insects.
- ♦ Contrary to popular belief, this animal can see very well and uses an internal radar system called echolocation to find its food in the dark. This radar is so sensitive it can "see" objects as thin as fishing line!

The mystery mammal is a:

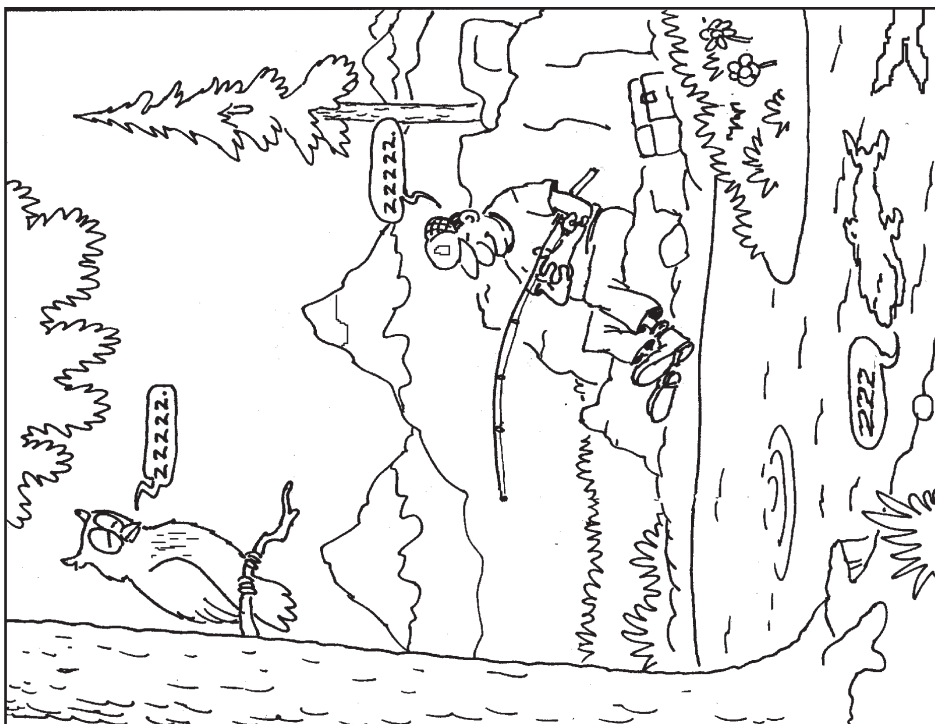
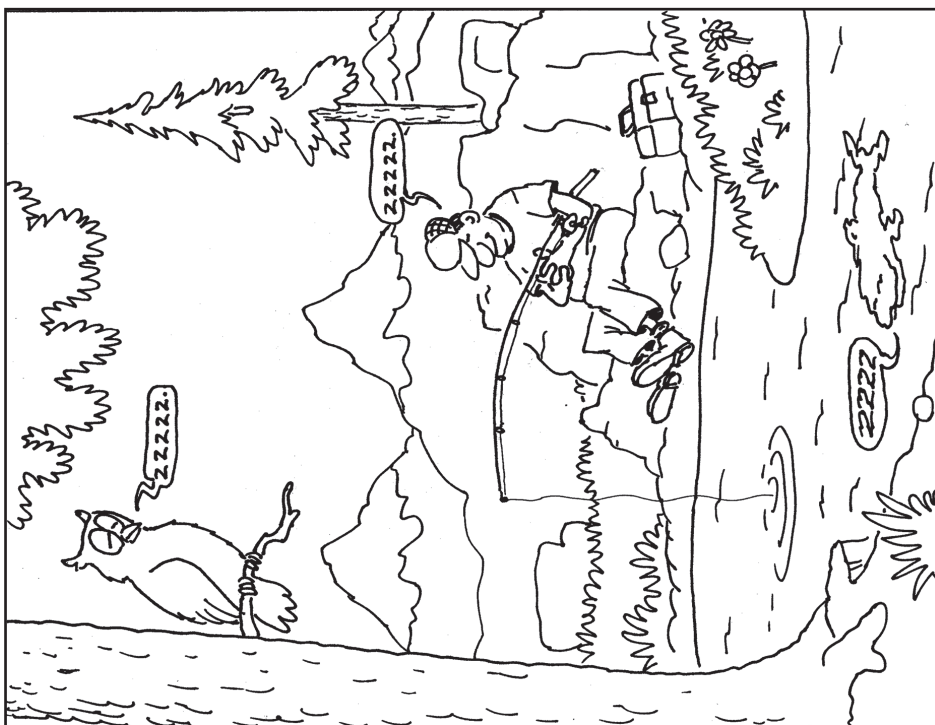


DID YOU KNOW?

A bat's wing contains the same bones found in the four fingers and the hand of a human being! It uses its wing and tail membrane to catch insects.

Spot the Ten Differences!

These 2 drawings look exactly alike—but they're not! See if you can spot the difference between them. Draw a circle around the differences on the drawing on the right. Hint: There are 10 differences.



DID YOU KNOW?

Forested land absorbs rainfall, refills underground aquifers, slows storm runoff, reduces flooding, sustains watersheds, and provides critical habitat for fish and wildlife.

NATIONAL FOREST Wildlife Detective

Wildlife Detective Forrest Visitor is on the scene! You've received a report of a suspicious animal near the pond. Put these clues together to solve the case!

What animal left these clues behind?

CLUE # 1

You find a pile of black large sausage-shaped droppings. This "scat" has seeds, nuts and even dead insect bodies mixed in. Draw a sketch of what this might look like in the space to the right.



CLUE # 2

In the mud near Lost Pond, you notice sets of tracks that look like a human foot except they are shorter, wider and have claw marks at the end of each toe. The front track measures four inches long and the back measures seven inches long. Compare your foot with the track. Is it bigger or smaller?



CLUE # 3

You find claw marks going up the trunk of a Beech tree near the pond. Write your response on the lines below.



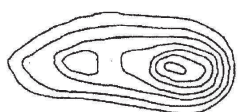
DID YOU KNOW?

Black bears are usually shy and avoid humans but will search for human food when natural foods are not available. Take proper care of your garbage, store your food in bear-safe areas (canisters, trunks of cars), and never feed a wild animal.

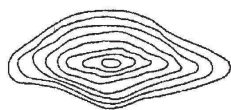
Contour Match-up!!

Contour lines are imaginary lines that join points of equal elevation. If you walk along a contour line you neither gain nor lose elevation. Contours make it possible to measure the height of mountains, depths of the ocean bottom, and steepness of slopes. Contour lines close together show a steep hill while lines farther apart show flatter areas.

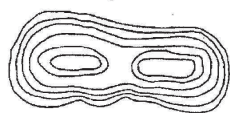
Look at the hill silhouettes and the contour line drawings. Match each hill silhouette with the correct contour drawing by writing down the letter of the hill next to its contour numeral.



1



2



3



4



5



6



A



B



C



D



E



F

Blazes are markings of a consistent shape or shapes, dimension and color or combination of colors along a trail route that follow each other at certain distances and mark the direction of the trail. There are no blazes in the wilderness.

**DID YOU
KNOW?**



Collect an Alphabet of Natural Objects

As you travel in the National Forest look for plants, animals, trees, insects, birds, weather and other natural objects that begin with the

letters in the upper left corner of each box.

Draw or write the name of the object you found in the appropriate box.

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



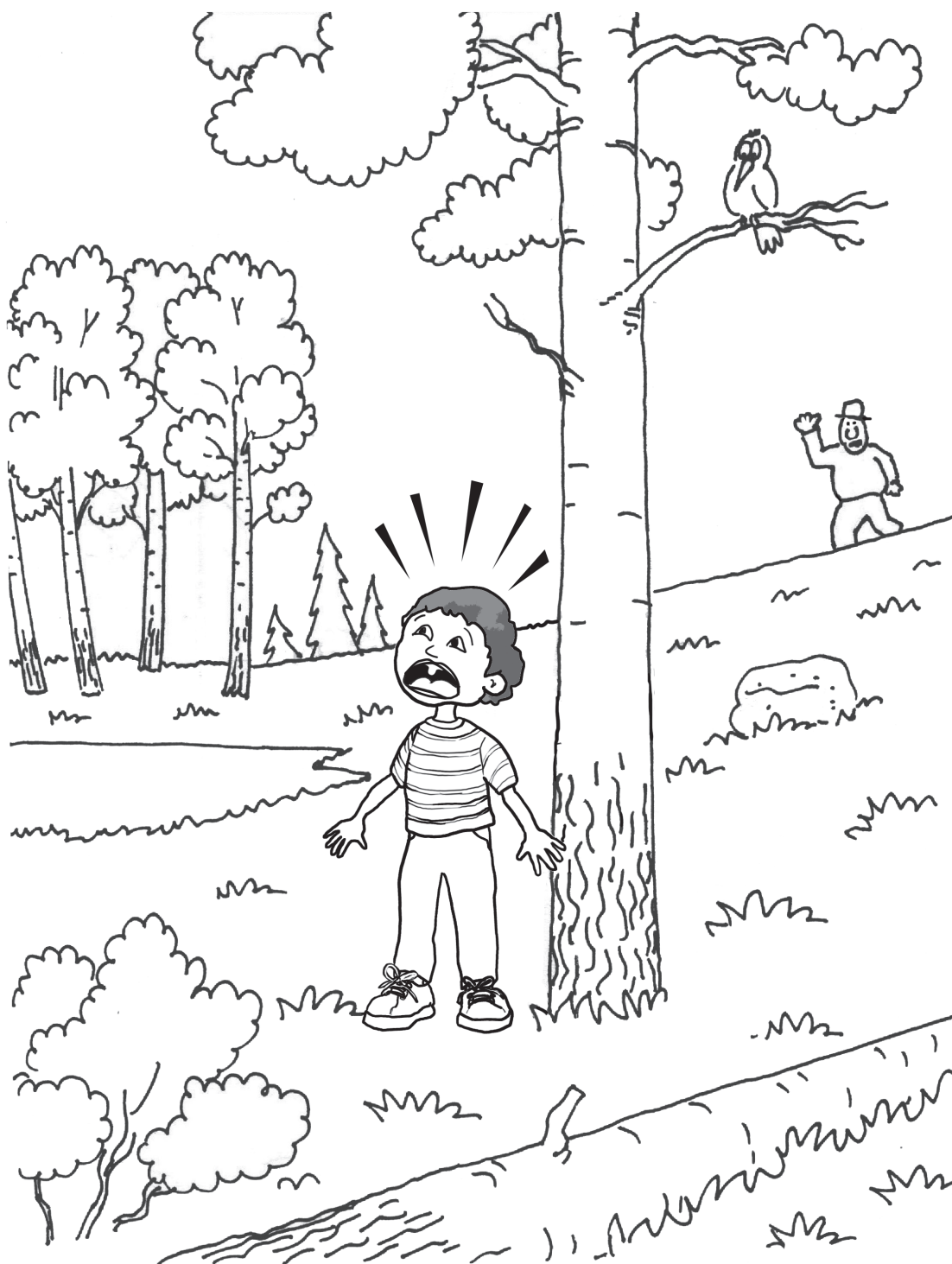
DID YOU KNOW?

Forces such as wind, wildfires, disease and tree cutting result in a variety of forest ages and habitat features that ensures the abundance and diversity of wildlife.

Lost in the Woods

If you ever get lost in the woods, stay in one place and wait for help. Make a noise that

others can hear. You won't get in trouble! Color this page and share it with a friend.



Kid illustration by
Juliette Watts.

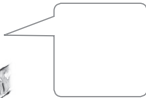
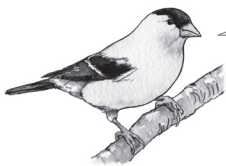
Musical Message

Birds sing to identify their territory or to find a mate. Birds also sing to "talk" to let other birds know where they are and if they're friendly or looking to defend food or territory. Some bird songs sound like everyday words people use.

Below are the songs of some birds you will find in the national forests. Use the clues above each picture to match the bird with its human-word song and put the correct letter inside the corresponding balloon.

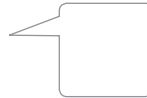
American Goldfinch

Hint: Salty crisp



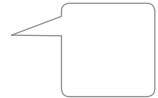
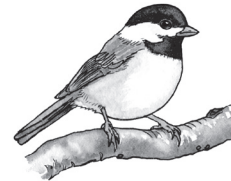
Barred Owl

Hint: A chef



Black-capped Chickadee

Hint: Baby Chicken



Ovenbird

Hint: Works at a school



Red-eyed Vireo

Hint: Elevator



Robin

Hint: A breakfast cereal



White-breasted Nuthatch

Hint: Pull twice



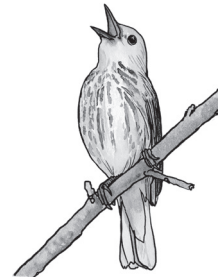
Wild Turkey

Hint: Eat fast, twice



Yellow Warbler

Hint: Candy



A—Going up...
coming down

B—Who cooks for you

C—Sweet, sweet, sweet,
I'm so sweet

D—Teacher-teacher-
teacher

E—Yank, yank

F—Gobble, Gobble

G—Chick-a-dee-dee-dee

H—Potato chip-potato
chip

I—Cheerio, cherry me,
cherry me



DID YOU KNOW?

Biologists survey the birds on the forest by listening for their songs and calls in order to track population changes. These annual surveys are done in the spring when birds are breeding.

Bird illustrations by
Juliette Watts.

A Forest Provides These

People rely on forests in many ways and for many things. Unscramble the following words to find out what a forest provides. Write your answers on the line above each word. In some

cases there are two words per line. If you can think of others, write them on the blank lines below. Share them with the Ranger and get a Smokey Bear sticker!

nelca ria

senercy

sbjo

dof

widlfle atibaht

retreciona

frotse prudcots

nelca rewat

blurme

apper

friedwoo

The shade and wind buffering provided by trees around your homes reduces annual heating and cooling costs.

**DID YOU
KNOW?**



Hike Safe

To have a safe, enjoyable outdoor experience, and help reduce search and rescue efforts, you need to be prepared. The hikeSafe program was created to educate hikers of all ages, from first-timers to experienced trekkers.

Expect the unexpected! No hiker should hit the trail without packing the **Ten Essentials**—things that you should always bring with you when you go for a hike.



Check the box next to what you think are the ten essentials from the items listed below:

Find a ranger or look up the answers on your own. Do you have a favorite item you like to bring with you when you go for a hike? Share that with a ranger and get a Smokey Bear sticker! (source: hikesafe.com)

- | | | |
|---|---|--|
| <input type="checkbox"/> Ball | <input type="checkbox"/> Flashlight or headlamp | <input type="checkbox"/> Pocket knife |
| <input type="checkbox"/> Binoculars | <input type="checkbox"/> Frisbee | <input type="checkbox"/> Rain/wind gear |
| <input type="checkbox"/> Camera | <input type="checkbox"/> Garbage bag | <input type="checkbox"/> Rope |
| <input type="checkbox"/> Cards | <input type="checkbox"/> Hair dryer | <input type="checkbox"/> Stuffed animal |
| <input type="checkbox"/> Music player | <input type="checkbox"/> Electronic device | <input type="checkbox"/> TV remote control |
| <input type="checkbox"/> Cellphone | <input type="checkbox"/> Makeup | <input type="checkbox"/> Warm clothing |
| <input type="checkbox"/> Compass | <input type="checkbox"/> Map | <input type="checkbox"/> Water pistol |
| <input type="checkbox"/> Extra food and water | <input type="checkbox"/> Matches/firestarters | <input type="checkbox"/> Weights |
| <input type="checkbox"/> First aid kit | <input type="checkbox"/> Measuring tape | <input type="checkbox"/> Whistle |



DID YOU KNOW?

Thirst signals that you are dehydrated (you don't have enough water in your body). Dehydration can drain your energy and ruin your outing. Remember to drink lots of water and eat salty snacks to replace what you lost through sweating and exercise.

Interview a Forest Ranger

(Write answers above lines)



Name of ranger:

The ranger works at the National Forest as a:

How many years has the ranger worked in his/her field?

What does the ranger like about his/her job?

What is one thing that the ranger does regularly?

What is the most rewarding thing about being a Forest Ranger?

What is the hardest part of their job?

What is the ranger's most favorite place in the forest?

What is one thing the ranger would like you to learn today?

Other Comments:

Forest Rangers are responsible for caring for the 192 million acres of forests and grasslands of the United States.

**DID YOU
KNOW?**



Habits and Habitats

Forest Animal Survey (Write answers above lines)

Observe a living creature in the forest and answer the following questions. (If you weren't able to find one then invent one). Think about how your creature moves, eats and protects itself.

My forest creature is a:

My creature likes to eat:

My creature finds food in this part of the forest: (openings, mature forest, ground, shrub layer, canopy, etc.)

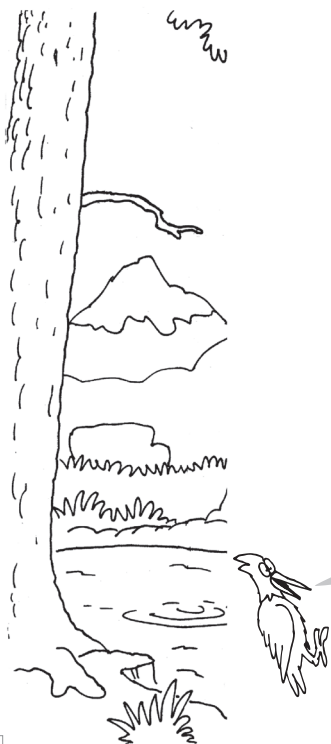
My creature makes its home in this part of the forest: (openings, mature forest, ground, shrub layer, canopy, etc.)

Other creatures that prey on (hunt and eat) my creature include:

In winter, my creature... (migrates, remains active in the forest, hibernates)

My creature has been around because I found signs of: (nest, tracks, nibblings, resting spots, rub marks, holes in trees, scat, hair, feathers, other)

My creature looks like this: (Draw a picture of it in the space below)



DID YOU KNOW?

There are 259 Threatened and Endangered Species in the Pacific Southwest Region of the Forest Service¹. Eighty-nine of these are threatened and endangered because of disappearing and degrading habitat.

¹ Go to page ii for info on the Pacific Southwest Region

A Mountain Travel Puzzler

To uncover the secret ending to the message below you will need to work with both the message box and the puzzle box.

Below each letter in the message box you will find two numbers. Find the first number of each set along the left side of the puzzle box. Find the second number along the bottom of the puzzle box.

If you move your left finger from the first number toward the right along the grid line, and you move your right finger toward the top along the grid line, you will end up with both fingers in the same square. The letter you find in that square can now be put on the line below the pair of numbers.

Two letters have already been filled in to help you get started. Can you retrace how we found them?



Fill in the rest of the letters and finish the message to discover the most important thing you should do when traveling in the mountains.

Message: Take earth smart-actions that have positive effects on water, land, air and plants and animals by doing these things:

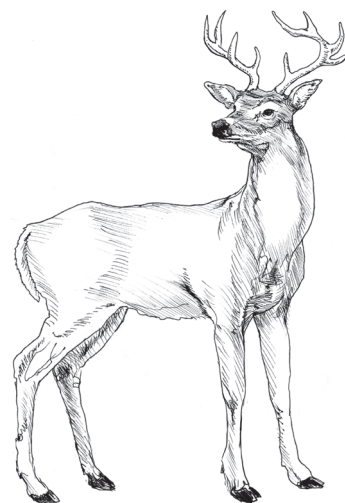
Message Box

2/8	1/6	2/9	4/9	4/7	1/6	2/8	1/6	4/9	5/7	1/6	2/7	4/10	2/9	2/8	1/6	4/7	5/9	4/7	1/8	1/6
R																				E



Puzzle Box

	6	7	8	9	10
1	E	G	L	W	J
2	P	A	R	D	T
3	B	M	O	X	F
4	H	C	Q	U	N
5	V	S	K	Y	I



Bobcat and deer illustrations by Juliette Watts.

Clean and Green!

Energy is in everything. We use energy in everything we do from hiking a trail to sending astronauts into space. Energy comes in two types of sources: renewable (that can be replenished) and nonrenewable (that can't be

replenished). Below are words that describe energy sources we have and ways to provide energy. Find the words listed and circle them in the grid below. Look across, up, down, diagonal and backwards.

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

BIOMASS
CLEAN
COAL
CONSERVE
EFFICIENT
ELECTRICITY

ENERGY
FOSSIL
FUEL
GAS
GEOTHERMAL
GREEN

HYBRID
HYDROPOWER
NATURALGAS
NONRENEWABLE
NUCLEAR
OIL

PROPANE
REDUCE
RENEWABLE
RESOURCE
REUSE
SAVE

SOLAR
SUSTAINABLE
WASTE
WATER
WIND



DID YOU KNOW?

Real energy comes from the sun, which is solar (light) or heat energy. Every hour enough sunlight reaches the earth's surface that could potentially provide the world with power for one year.

Mountain Mad Libs

One person (the READER) asks another player to give him/her words that fill in the blank spaces in the story below. The READER doesn't tell the other player what the story is about beforehand. Once all the blank spaces are filled in the READER then reads back the crazy story!



An ADJECTIVE describes something or somebody. *Lumpy, soft, messy, short* are adjectives.

An ADVERB shows something is done. It modifies a verb and usually ends in "ly". *Modestly, greedily, and carefully* are adverbs.

A NOUN is the name of a person, place or thing. *Sidewalk, umbrella, bathtub, and nose* are nouns.

A VERB is an action word. *Run, jump, pitch, and swim* are verbs. Put the verbs in the past tense if the directions say past tense. *Ran, jumped, swam* are verbs in the past tense.

Hiking is a really _____ thing to do in the summer. But, hiking in the

ADJECTIVE

National Forest is nothing like going for a walk or _____ in your

VERB

_____. The serious National Forest hiker needs lots of

NOUN

_____ equipment. You must have very comfortable _____ so

ADJECTIVE

NOUN

you won't make your _____ sore. When you hike you must take a map

PART OF THE BODY

so you can _____ where the _____ is. You must carry food and

VERB

NOUN

water to keep you _____ but don't feed the _____, your food won't

ADJECTIVE

ANIMAL NAME

help them. Every good hiker wears a backpack, which contains a _____ and

NOUN

some extra _____. In winter, you have to make sure you don't get

PLURAL NOUN

_____ or _____ or _____ in order to be safe

ADJECTIVE

ADJECTIVE

ADJECTIVE

and happy. Always have _____ with you when ever you go out hiking

NOUN

so you can get back home _____.

ADVERB

Nature Riddles

Write in the answer to all the nature riddles below.
We started you off by answering the first riddle!



1. What tree name does everyone carry in his/her hand?
2. What arachnid name is like the sound of a clock?
3. What tree name sounds like what you call lots of sand at the edge of water?
4. What insect name is a letter?
5. What tree name sounds like what keeps animals warm?
6. What insect name is like your father's sister?
7. What bird name is a church official?
8. What insect name can help you climb a mountain?
9. What tree name sounds like what you find after a fire?
10. What fruit tree name always has a partner?
11. What bird is a royal angler?
12. What bird name is a letter?

Palm

Make up your own riddle and share it with the ranger to get a Smokey Bear sticker!



DID YOU KNOW?

Insects are so important in the breakdown of plant and animal matter, that without them, we would have a world covered with dead plants and animals!

Weather Forecasting

Weather in the national forests is always changing and one of the best ways to see the change is in the clouds. Clouds come in different shapes, sizes, and colors.

Even fog is considered a cloud. Here are some cloud weather predictors to help you on your adventure.

- ♦ High clouds—If they are wispy and white, the weather will be fine.
- ♦ Lower clouds—If they are dense and dark, change is coming soon, and usually for the worse.
- ♦ Lowering or gathering clouds usually bring wet weather.
- ♦ Lifting or dispersing clouds mean the weather will improve.
- ♦ In shape, flat clouds mean stable air, while lumpy, well-rounded clouds mean unstable air. A sharp-edged cloud is most dangerous of all.

Draw a line from the cloud description to the matching cloud.

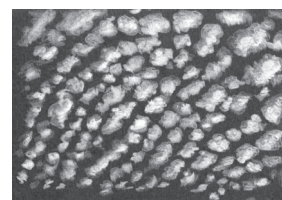
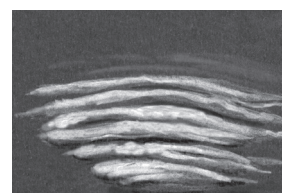
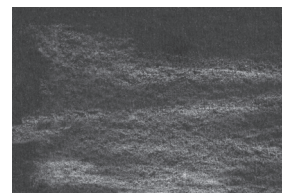
Cirrus clouds are thin and wispy and are found very high in the sky. Also known as mares tails they point in the direction the wind is blowing. No precipitation falls from these clouds and are a sign of fair weather for now but if they thicken or join together then expect changes in the next 24 hours.

Alto clouds are medium high clouds that usually don't produce rain but predict changes in the next 12 hours. The **Alto cumulus** clouds look like fuzzy bubbles in long waves across the sky.

Cumulonimbus clouds are thunderstorm clouds that bring heavy rain, snow, hail, lightning and even tornadoes. High winds flatten the top of the cloud into an anvil-like shape that usually points in the direction the storm is moving.

Stratus clouds are uniform grayish low clouds that often cover the entire sky. They resemble fog that doesn't reach the ground. Light mist or drizzle sometimes falls out of these clouds.

Lenticular clouds are unique clouds that form around mountains because of air movement in waves over and around the mountains. Their long lens shape often looks like a UFO or a stack of pancakes. They are a sign of high elevation moving winds that pilots tend to avoid.



Cloud illustrations by Juliette Watts.

Would you rather...?

Animals and plants have different strategies for adapting to their environment. Read the adaptation choices then use the space provided to list which of the two choices you would rather and why. Look on the answer page for the animals that use the adaptations listed.

...have a Moose nose or a Great Blue Heron neck?

...always wear earmuffs or nose plugs?

...eat poison ivy or eat a handful of bumblebees?

...have extra special hearing or extra special sight?

...sleep all winter (hibernate) or go on vacation until spring (migrate)?

...be a tree or live in a tree?

...only be able to whisper or only be able to shout?

...have sharp claws or big feet?

...live at the top of a mountain or underground?



DID YOU KNOW?

Many animals hibernate in a den all winter, but some animals hibernate in the summer. Some fish can hibernate in a waterproof mucus envelope if their lake dries up. Certain birds and bats enter a sort of daily hibernation called torpor.

Fascinating Facts

Search through the visitor centers, information handouts, and ask your local ranger to find the answers to the following fascinating facts.



1. The 192 million acres of the nation's forests and grasslands provide clean water, scenic beauty, biodiversity, outdoor recreation, natural resource-based jobs, forest products, renewable energy, carbon sequestration and trips to the moon. (Circle the one that is not true)
2. Name two national public lands near you:
3. Name three geologic features near you:
.....
4. In what state is the national public land you are visiting?
5. What is the elevation at the highest point of the national public land you are in?
6. Name two things you might find on this national public land:
.....
7. What or whom is your national public land named for?
8. What year was your national public land established?
9. What is the name of the largest building on your public land?
10. Name one Native American tribe that is part of your national public land:
11. What is the longest name of a site on your national public land?
12. What is the name of a trail on your national public land?
13. Name something unique about your national public land:

Oh, the Places You'll Go!

Preparing and planning for a trip includes researching where to go and possible routes, bringing the necessary equipment and knowing how to use it, checking the weather and avalanche forecast, and telling someone where you're going and when you're expected back.

Fill out a trip plan for your next trip in the outdoors and share it with your family.

Start (day of week, date, time)

Intended Return (day of week, date, time)

Purpose of trip (Day Hike, Overnight hike, skiing, etc.)

DESTINATION:

Route Plan A—Intended route in (be specific)

Intended Route out (be specific)

Route Plan B—Alternative route in (be specific)

Intended Route out (be specific)

Weather forecasted

Equipment/supplies taken (including cell phone number)

Number in group and who

Vehicle, license #, make/model

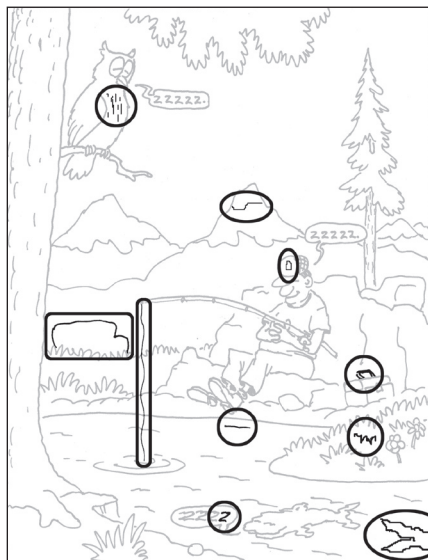
Trip plan given to

.....

Note: Cell phones and radios can be useful in some areas but never rely on them as they often don't work in the mountains. Always be prepared to take care of yourself!

Answer Page

P 3—Spot the Ten Differences



P 5—Contour Match up

1C, 2E, 3F, 4B, 5A, 6D

P 8—Musical Message

Red-eyed Vireo – A	Ovenbird – D
Barred Owl – B	Goldfinch – H
Black-Capped	Yellow Warbler – C
Chickadee – G	White-breasted
Wild Turkey – F	Nuthatch – E
Robin – I	

P 9—A Forest Provides These!

Clean Air	Forest Products
Scenery	Clean Water
Jobs	Lumber
Food	Paper
Wildlife Habitat	Firewood
Recreation	

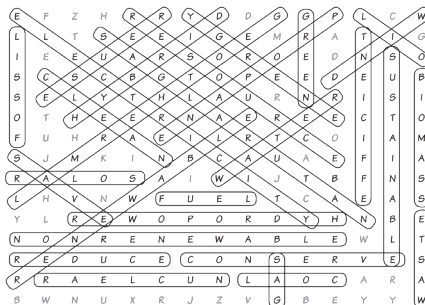
P 10—HikeSafe: Ten Essentials

- | | |
|-------------------------|---------------------|
| 1. Compass | 6. Matches/lighters |
| 2. Extra food and water | 7. Pocket knife |
| 3. First aid kit | 8. Rain/wind gear |
| 4. Flashlight | 9. Warm clothing |
| 5. Map | 10. Whistle |

P 13—A Mountain Travel Puzzler

Reduce, Reuse and Recycle

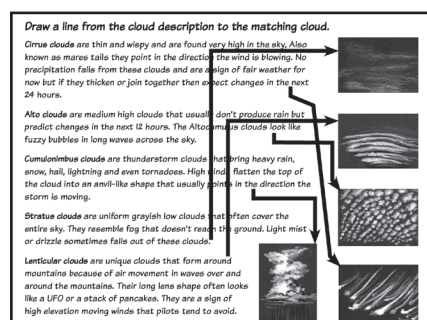
P 14—Clean and Green



P 16—Nature Riddles

- | | |
|----------|------------------|
| 1. Palm | 7. Cardinal |
| 2. Tick | 8. Walking Stick |
| 3. Beech | 9. Ash |
| 4. Bee | 10. Pear |
| 5. Fir | 11. King Fisher |
| 6. Ant | 12. Jay |

P 17—Weather Forecast



P 18—Would You Rather?

Earmuffs – Black Bear
Nose plugs – Beaver
Poison Ivy – Deer
Bumblebees – Skunks, Bears
Special Hearing – Bats
Special Sight – Hawks
Hibernate – Woodchuck
Migrate – Warbler
Live in a Tree – Bark Beetle

Forest Junior Ranger Pledge

I GIVE MY PLEDGE
AS A JUNIOR FOREST
RANGER TO SAVE AND
FAITHFULLY DEFEND
FROM WASTE THE
NATURAL RESOURCES
OF MY COUNTRY -- ITS
SOILS AND MINERALS,
ITS FORESTS, ITS
FLOWERS AND TREES,
ITS WATERS AND ITS
WILDLIFE.

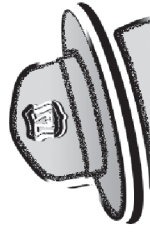


Whisper – Hummingbird
Shout – Spring Peeper
Sharp Claws – Bobcat
Big Feet – Snowshoe Hare
Top of Mountain- Bicknell Thrush
Underground – Chipmunk

P 20—Forest Facts

Trips to the moon

JUNIOR FOREST RANGER



Certificate

Awarded To

Name

I certify that the above person has completed all the requirements to be a
National Forest Junior Ranger for the

Forest/Unit Name

Forest Ranger Name

Date (mm/dd/yyyy)

