CHUGACH NATIONAL FOREST
Junior Ranger
FIELD NOTEBOOK

NAME: ________________________________
Hey Future Ranger!

Welcome to the Chugach National Forest!

The Chugach National Forest is 5.4 MILLION acres, making it one of the largest national forests in the United States. That's a lot of land to explore. What will you do while you’re visiting—hike a trail, catch a fish, camp outside, or __________?

Fun Fact! Chugach National Forest was established in 1907!

What is a National Forest?

National Forests are managed and protected federal lands that are set aside to be used by everyone. They are large expanses of forest and grasslands that are managed by the Forest Service. There are 154 national forests in the U.S. and 2 national forests in Alaska.
Hey Future Ranger!

How Do I Become A Junior Ranger?

Complete at least 5 activities in this field notebook. When you’re finished, bring your book to a Forest Service Ranger so they can see your work. If you can’t make it to a Forest Service office, ask your parents to mail it in. The mailing address is located on the back cover.

Let’s get started!

Hint A simple tool—like the rulers on the back—are used by scientists to record their observations. Try it out while you’re outside!

What is a Field Notebook?

A field notebook is a way for scientists to:

• document what they see in detail
• record questions they have about what they’re seeing
• note their experiences while being outside

This is your notebook. Use any spaces to take notes or draw pictures of what you find on your adventures.

Fireweed

Height
3 feet 11 inches

Leaf length
7 inches

It was growing in a sunny spot with a bunch of other fireweed plants.

Bear Tracks

Spotted 6 feet from trail
Largest one was 7 1/2 inches long

Hint A simple tool—like the rulers on the back—are used by scientists to record their observations. Try it out while you’re outside!
Know Before You Go

It’s important to know how to be safe when you’re out in the woods before you head out on your adventure. Talk with a Ranger or your group about how you can prepare for your trip and any challenges you might encounter.

Directions: Circle the things that you would need to be ready for your hike. Cross out what isn’t needed.

Weather
The weather can change quickly in Alaska. Be prepared for changing weather conditions.

Size
The Chugach National Forest is large. Sometimes help may be very far away, so prepare ahead of time.

Wildlife
The Chugach National Forest is home to a wide variety of wildlife. Always be aware of your surroundings and give wildlife plenty of space.

Leave No Trace Seven Principles
Plan ahead and prepare • Minimize campfire impacts • Leave what you find • Travel and camp on durable surfaces • Respect wildlife • Dispose of waste properly • Be considerate of visitors
Find Your Way

Knowing where you are, is important. You orient by using a map, compass and landmarks to figure out locations, as well as learn information from your surroundings.

**Directions:** We dropped our map and now everything is out of place! Help us put all the items back on the National Forest map. Check with a ranger if you need help.

- **Twenty Mile River** is N of Portage Valley and S of the Chugach Mountains
- **Turnagain Pass** is W of Portage Valley and NE of Granite Creek Campground
- **Kenai Lake** is S of Trail River Campground and W of Seward Highway
- **Spencer Whistle Stop** is just off of the Alaska Railroad tracks due E of Granite Creek Campground

There are many more fun sites in the Chugach National Forest. See what other places you can add to your map.
Amazing Animals

The **Copper River Delta**, located in the eastern portion of the Chugach National Forest, is an important “refueling” stop for many migratory birds. Each spring, an estimated **12 million shorebirds** stop along the shores of the Copper River Delta on their way north.

**Directions:** Select the correct answer to help the western sandpiper find her friends and continue her journey through the braided rivers of the delta.

The Delta has the **largest gathering of _____ in the Western hemisphere**

False: Many mammals like moose and bear are found on the Delta

True: The Copper River system supports the ____ species of Pacific salmon.

**Fun Fact!** Nearly the entire Pacific coast population of Western sandpipers comes through the Copper River Delta. At the height of migration, people see nearly 250,000 birds in the area.

The Copper River Delta is also home to a variety of wildlife species. See how many of these tracks you can find on your next visit to the Delta.
Phenomenal Flora

Plants have adaptations that make them more suited to their environment—kind of like super powers! We can find many examples of these superpowers right here in the Chugach National Forest.

**Directions:** Draw a line to match a plant with its super power. When you’re done, draw your own plant with super power adaptations.

**Don’t Touch!**
Use only your eyes. Some plants are poisonous to eat or touch.

**Be Safe!**

- **Caribou moss** (Cladonia rangiferina)
- **Sun Dew** (Saxifraga cespitosa)
- **Pasque Flower** (Pulsatilla)
- **Labrador tea** (Ledum groenlandicum)

**POW!**
As one of the first flowers to bloom in the spring, you might find me popping up out of the snow. My stems are covered with tiny hairs that help me keep warm.

**BAM!**
Despite my name, I am NOT a plant. I have hollow stems that keep me from freezing in cold temperatures. I grow well on the tundra. I am actually a lichen.

**BEAM!**
My fragrant leaves can be used to make a soothing tea. Because my rhizomes (rootstocks) are found deep in the soil, I am one of the first plants to recolonize an area after a fire.

**POW!**
I am a carnivorous plant. I use a sweet sticky substance to catch insects and then special enzymes to break them down. I use the minerals from the insects for the nutrients I need to grow.

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**Fun Fact!**
The *Arctic poppy* rotates with the sun to catch as much sunlight as possible.
**How to Play**

1. Find a small rock or other item to use as a game piece.
2. Flip a coin.
   - Heads = Move 3 spaces
   - Tails = Move 1 space
3. Read the square.
   - Some are Fun Facts.
   - Others are Directions.

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1. **The Chugach is one of the oldest National Forests — established 1907**.

2. **Alaska Natives have lived here for more than 10,000 years and counting!**

3. **Forest watersheds provide habitat for 66 million salmon each year.**

4. **Wow, no space to camp at Russian River Campground. Go back 2 spaces.**

5. **Picked up debris from beach. Move ahead 2.**

6. **Stayed at one of the 41 public cabins on the Forest!**

7. **A lovely day to kayak in the Sound. Take a short-cut to block 10!**

8. **The Sound has more bald eagles than the entire lower 48 states.**

9. **Yikes! Your boat ran aground. Move back 1 space.**

10. **The Nellie Juan College Fiord Wilderness Study Area is 2.1 million acres.**

12. The Sound is still recovering from the 1989 Exxon Valdez Oil Spill.

13. The Sound has more than 3500 miles of coastline.

14. Pack your rain gear! Many areas in the Sound receive well over 100" of rain each year.

15. Congratulations! You caught a world famous Copper River Red Salmon. Move ahead 1 space.

16. The Delta is created from silt being left by glacial melt in the rivers.

17. Millions of migrating birds rest and feed on the 700,000 acre Delta each year.

18. Whoa! You got too close to a calving glacier! Move back 6 spaces.

Finish
Thanks for visiting the 5.4 million acre Chugach National Forest!

The Coolest Thing I Learned about the Chugach National Forest
Alaska’s Roots

Many of Alaska Native peoples have been living off of the land in the Chugach National Forest and Alaska for thousands of years. They hunt animals, gather natural foods, such as mushrooms and berries, and collect natural materials for things like tools and medicine.

Directions: How could you use the items below to help you survive? Write your ideas next to each item.

- a rock
- a stick
- tree bark
- some moss

Native Peoples of the Chugach National Forest

MAP LEGEND
- Chugach National Forest border
- Alutiiq/Sugpiaq
- Ahtna
- Dena’ina
- Eyak

Prince William Sound
The Chugach National Forest has a special relationship to salmon. In fact, Congress set aside the forest land to protect the fish and their habitat. When you think of salmon, where do you picture them being? In a river? In the ocean? While these are true, the nutrients in their bodies end up in many unexpected places.

**Directions:** See if you can spy all 6 salmon hidden throughout the ecosystem.

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**Fun Fact!** Decaying salmon carcasses and scat (poop) from animals that eat salmon also return important nutrients to the soil.

**Fun Fact!** The Chugach National Forest provides important habitat for more than 10% of all Pacific salmon.
The Story Trees Tell

Trees can help scientists understand historical climate records. One way scientists do this is by studying tree rings. This science is called Dendrochronology.

**Directions:** Using the tree ring diagram, label the different events in the life of the tree in the core sample below.

- **first year growth** (center rings)
- **rainy season** (wider rings)
- **dry season** (skinnier rings)
- **scar tissue from forest fire or sickness** (blemish and recovery)

**Fun Fact!** Weather is a specific event—like a rainstorm—the happens over a short time. **Climate** is the average of weather conditions over a long period of time.

**Tree Core Sample**

- outer bark
- 
- 
- 

**Directions:** Look around and see if you can find a stump or large branch. Draw its rings and see what story it tells you.

**Fun Fact!** The Chugach National Forest is the northern most temperate rainforest. These rainforests are cool and rainy.
Glaciers

Glaciers have **advanced** and **retreated** over the years due to changes in climate. They have played a major role in shaping much of the landscape of the Chugach National Forest.

The Chugach National Forest has nearly **10,000 glaciers**! Most of these are found in Prince William Sound where all the “ingredients” to make a glacier can be found.

**Directions:** Oh no! The steps to make a glacier somehow got mixed up! Help fix this by numbering them in the correct order.

- **Ice Forms**
  The snow compacts over many years creating glacial ice.
- **Ice Calves**
  Ice reaches the face of the glacier and breaks off, forming icebergs.
- **Snow Falls**
  Snowfall collects on the mountain in an area called the accumulation zone.
- **Ice Moves**
  As the ice grows it begins to move down the mountain. The ice cracks creating crevasses.

**Recipe for a glacier**

**INGREDIENTS:**
- extreme latitude (close to the poles)
- freezing temperatures
- lots of snowfall
- high mountains

**DIRECTIONS:**
Mix well and wait about ten years!

**Directions:** Pretend you are a **Glaciologist** (scientist who studies glaciers). Plan an expedition to the Blackstone Glacier in Prince William Sound. Look at a map of the forest for help!

- Topics may include:
  - where you’ll go
  - name of glacier
  - type of glacier
  - what you want to study
  - how you’ll get there
  - how you’ll stay safe
  - how you’ll communicate with people
  - clothing
  - where you’ll stay
  - food and drink
  - scientific equipment needed

**Expedition Journal**
and ______ decided to go
(name 1) (name 2)
verb-ending in “ing”
They packed their ________
(plural noun)
and set off on their adventure.

When they got to ________
(place name)
you started their ________
verb-ending in “ing”
adventure. It wasn’t long be-
fore _________ felt ________
(name 1) (adjective)
so they stopped for a quick
noun
________ shared
(noun) (name 2)
some ________ ________
(noun) (adjective)
with _______. Feeling
(noun) (name 1)
________, they decided to
(adjective) continue on their way.

Then, _______ saw
(name 2)
a _______ shape.
(adjective)

They saw a ________ on
(noun)
their way to go ________
verb-ending in “ing”.

“I don’t know! Grab
my ________ guide.”
(noun)

“Cool! Let’s name it
________ ________
(noun)
(noun)
(adj)
(adj)

“It’s not in here!” said ________
(name 2).

“We discovered a new type of
________” said ________.
(animal or plant) (name 2)

And that’s the story of how the first ________
(adj) (noun)
(adj) (noun) was discovered!

“Cool! Let’s name it
________ ________
(noun)
(noun)
(adj)
(adj)

“Cool! Let’s name it
________ ________
(noun)
(noun)
(adj)
(adj)
JUNIOR RANGER PLEDGE

As a Junior Ranger, I,

_________________________________________,

promise to help protect the Chugach National Forest, my community, and the environment. I will explore the natural world and discover other cultures wherever I go.
My Favorite Part of the Chugach National Forest:

Produced by Chugach National Forest  Designed by Christine Vanderbeek
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