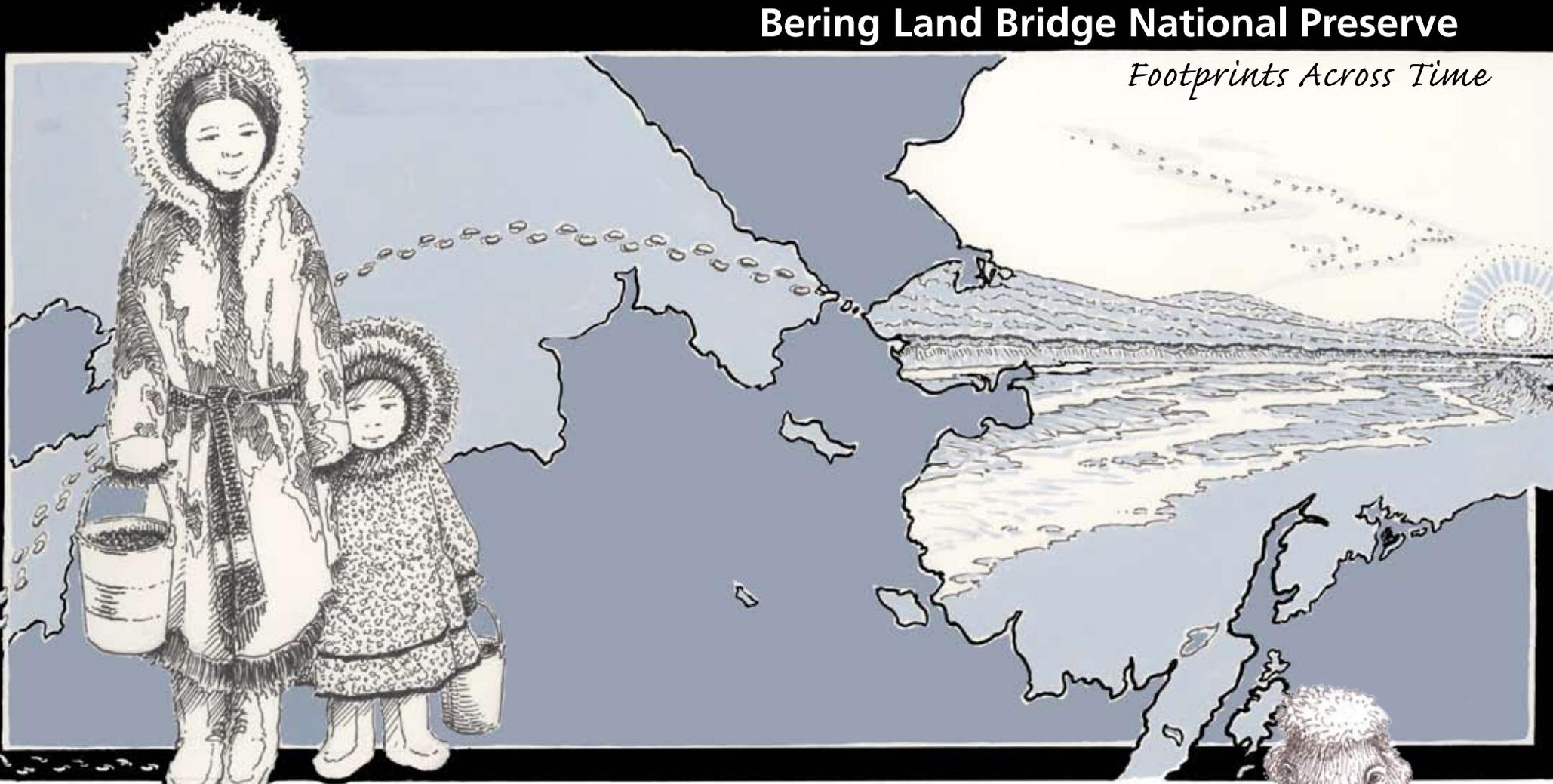


Bering Land Bridge National Preserve

Footprints Across Time



Junior Ranger

Booklet



You Want to Become a Junior Ranger?

A Junior Ranger at Bering Land Bridge National Preserve will have fun learning, discovering and creating while becoming familiar with the history, wildlife and culture of the Preserve and the Seward Peninsula.

Instructions:

Junior Rangers who complete six out of the fourteen activities in this booklet will receive a colorful patch and certificate honoring their accomplishments.

Activities are marked with symbols to help guide you through the booklet.



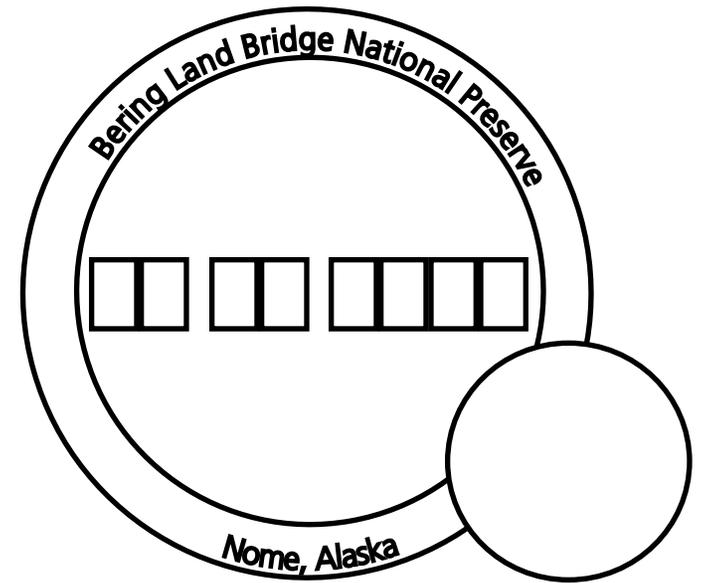
be an explorer of the great outdoors.



be an artist or storyteller.



be a detective, decoding these puzzles.

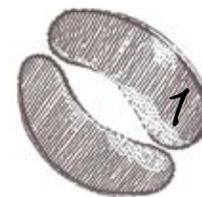


Your Name: _____

If you are in Nome, check out the Bering Land Bridge Visitor Center and get your Junior Ranger book stamped in the smaller circle above. If you are not in Nome, create your own stamp by filling in the squares with the date that you finish this book in the larger circle!

Look for bonus activities at the bottom of pages throughout the book! These are fun ideas for things to do with the rest of your family!

Index:



Section 1: The National Park Service and Conservation

Activity 1: National Park Service Arrowhead..... p.2

Activity 2: Turning Trash into Treasure..... p.3

Section 2: Uncovering the Bering Land Bridge's History and Archeology

Activity 3: A Journey Back in Time..... p.4

Activity 4: Dig in & Uncover Your Own History..... p.5

Section 3: Discovering Wildlife on the Seward Peninsula

Activity 5: Wildlife Bingo..... p.6

Activity 6: Arctic Adaptations..... p.7

Section 4: How about that Climate Change Today?

Activity 7: A Climate of Change..... p.8

Activity 8: Pollution Detective..... p.9

Section 5: Natural Creations

Activity 9: Favorite Plants to Eat..... p.10

Activity 10: Native Plant Rubbings..... p.11

Section 6: Wilderness Survival Skills

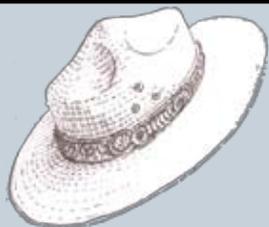
Activity 11: Garbage Bag Sleeping Bags..... p.12

Activity 12: Survivor's Scramble..... p.13

Section 7: Beringia's Inupiaq Culture

Activity 13: Subsistence Living..... p.14

Activity 14: Inupiaq Language and Oral Traditions..... p.15



Check out the extra pages in the back of this booklet! Use your imagination to continue exploring, learning, and protecting!



Activity 1: The National Park Service

Match each picture to its correct meaning on the right. Then, label the arrowhead on the left by drawing the mountain, tree, lake, and buffalo in the right place. Look at the arrowhead on the cover to help you put things in the correct place!



stands for protecting wildlife



stands for protecting recreational values



stands for protecting plants



stands for protecting scenic values

What do you think the arrowhead stands for?

1952

Established in April 1952, the arrowhead has become the symbol of the National Park Service.



Activity 2: Turning Trash into Treasure



One very important aspect of the National Park Service's mission to protect natural and cultural resources is the idea of **conservation**.

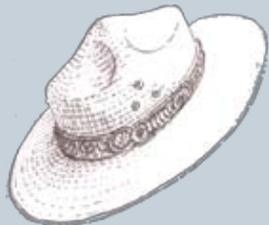
Conservation means being careful to not waste resources like plants, water and energy so that people have enough to use today and enough for their kids to use in the future.

One way that we can conserve resources is to reuse old materials by creating new uses for them. This process is called **recycling**.

All of the items below are things we use everyday. Instead of throwing them away, we can recycle. For example, we can turn a plastic milk jug into a bird feeder by cutting a hole in the front and filling it with bird seed.



Use the space to the right to invent your own recycled creation! Make sure to label the things you used to make your new invention.



Bonus Activity!

Make a list of things with your family that you can start recycling in your home. Make recycled paper at home. For the formula go to www.nps.gov/bela/kids.htm



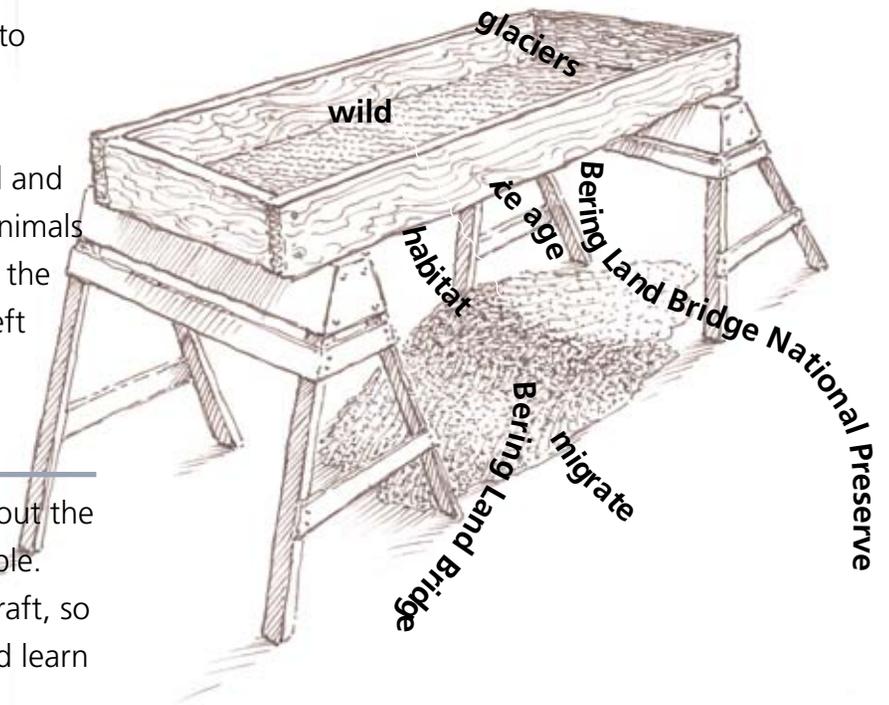
Activity 3: A Journey Back in Time

Archeologists often act as detectives, using their findings to fill in the blanks in history and understand life as it was thousands of years ago. Use your own detective skills to complete the story about Bering Land Bridge, filling in the blanks with the words from the dig site below.

Between 10,000 and 25,000 years ago, lots of the Earth's water was locked up in ice sheets. These ice sheets, called _____ were up two miles thick! The glaciers were like huge buckets made of ice, trapping a lot of the Earth's water. Because of this the amount of water in the oceans became less and the land at the bottom of the ocean was uncovered creating the _____. _____ . It connected Asia to Alaska. The land bridge gave animals, plants and humans a way to _____ to North America and further south into Central and South America.

Toward the end of the _____ , as the climate warmed and the glaciers melted, the land bridge was flooded by water. Many species of animals could not survive the change. When this happened, other animals would use the food, shelter, water, and space, known as a _____ left empty by the extinct animals.

Today, _____ is like a classroom about the ice age. It is still very _____ and has not been changed by people. There are no towns and no roads, you can only get there by foot or small aircraft, so the land remains like it was long ago, waiting for archeologists to discover and learn its history.



1728

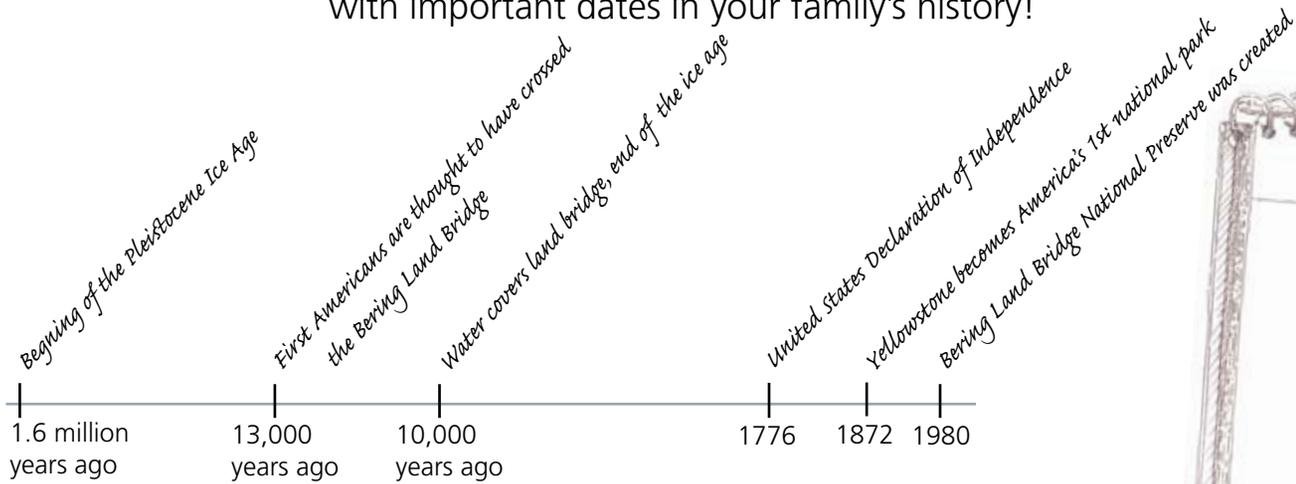
The word "Beringia" is another name for the Bering Land Bridge. It is named after explorer Vitus Bering, who sailed his ship between Russia and Alaska, making sure they were not connected.



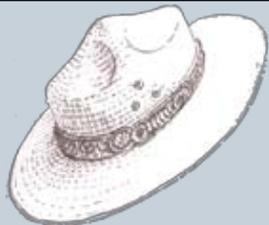
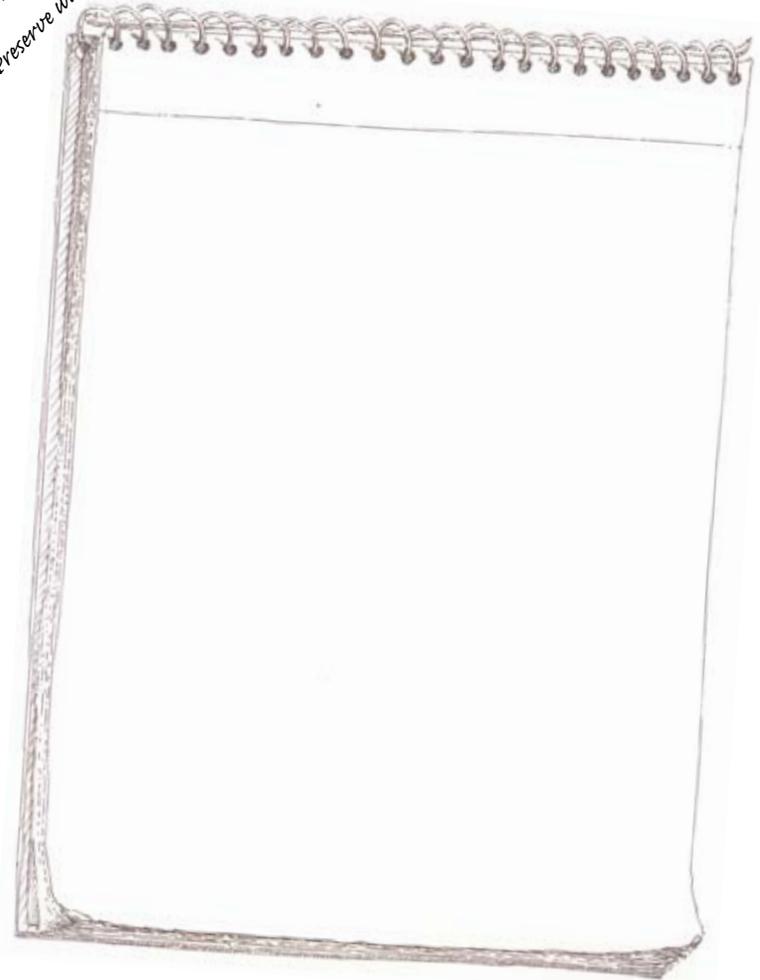
Activity 4: Dig In & Uncover Your Own History!



Part 1. Archeologists make time lines and other charts to keep track of history. Below is Beringia's history. Make a time line of your own by filling in the blank line with important dates in your family's history!



Part 2. Write a story or draw a picture about a trip you have taken in your Junior Ranger notebook to the right. This can be a trip you took that was far away or one close to home!



Bonus Activity!

Archeologists learn about the people who lived a long time ago by finding and looking at tools, toys, and trash they left behind, called artifacts. Make a list of the things you have in your room you think could become artifacts about you.



Activity 5: Wildlife Bingo

Did you know that the musk-ox is an animal that survived the ice age? You can still see herds of them living in Bering Land Bridge National Preserve. Why do you think the musk-ox was able to survive, but other animals like the woolly mammoth did not?

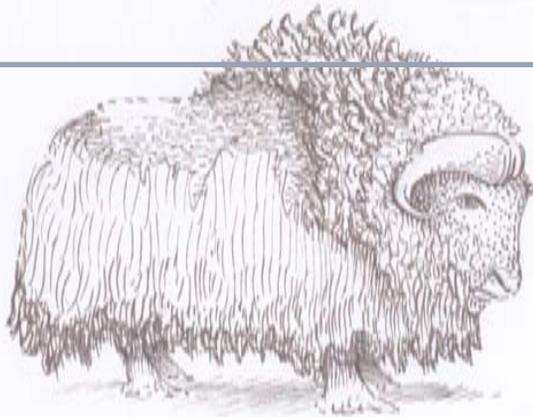
There are lots of other animals that you can see on the Seward Peninsula too!

When you are hiking with your family or out for a drive, see how many animals you can spot!

Directions: Use the card to the right to play a game of wildlife bingo! Fill in the name of the animal in a box every time you find a new type of animal. The first one is done for you! Once you get five marked boxes in a row (across, down or diagonally) you win! See if you can win without counting the same species twice!

Which animal was your favorite to see? Where did you find it?

<i>Land Mammal</i>	<i>Ducks, Geese & Swans</i>	<i>Land Bird</i>	<i>Fish/ Amphibian</i>	<i>Land Mammal</i>
<i>Fish/ Amphibian</i>	<i>Shorebird</i>	<i>Seabird</i>	<i>Land Mammal</i>	<i>Fish/ Amphibian</i>
<i>Marine Mammal</i>	<i>Land Bird</i>	<i>Land Mammal</i> HUMAN	<i>Birds of Prey</i>	<i>Land Bird</i>
<i>Marine Invertebrate</i>	<i>Shorebird</i>	<i>Marine Mammal</i>	<i>Land Bird</i>	<i>Ducks, Geese & Swans</i>
<i>Seabird</i>	<i>Land Mammal</i>	<i>Ducks, Geese & Swans</i>	<i>Marine Invertebrate</i>	<i>Birds of Prey</i>



170

There are over one hundred and seventy known species of birds in many different shapes, sizes and colors, that migrate to the Seward Peninsula every summer!



Activity 6: Arctic Adaptations



All of the animals living on the Seward Peninsula act in a certain way or look or have tools to help them survive. These are called **adaptations**. Animals adapt to their environments to find food, to communicate, to save energy, and more!

Animals must deal with weather!

Winter in the arctic can get very cold. Temperatures sometimes drop to -40 degrees Fahrenheit. Burr!!! During the summer, it can get as warm as 80 degrees Fahrenheit. Animals, like the polar bear adapt to such cold arctic weather with their black skin and white fur! Can't figure out why polar bears have black skin and white fur? Go to www.nps.gov/bela/kids

Animals must reproduce!

Mammals, like moose, usually only have a few babies that they stay with to raise and protect, like your parents. Other animals, like salmon, have a lot of babies to make sure that some survive to grow into adults. What is the better adaptation; raising your young or having lots of young so that a few will survive to become adults?

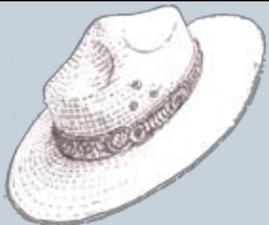
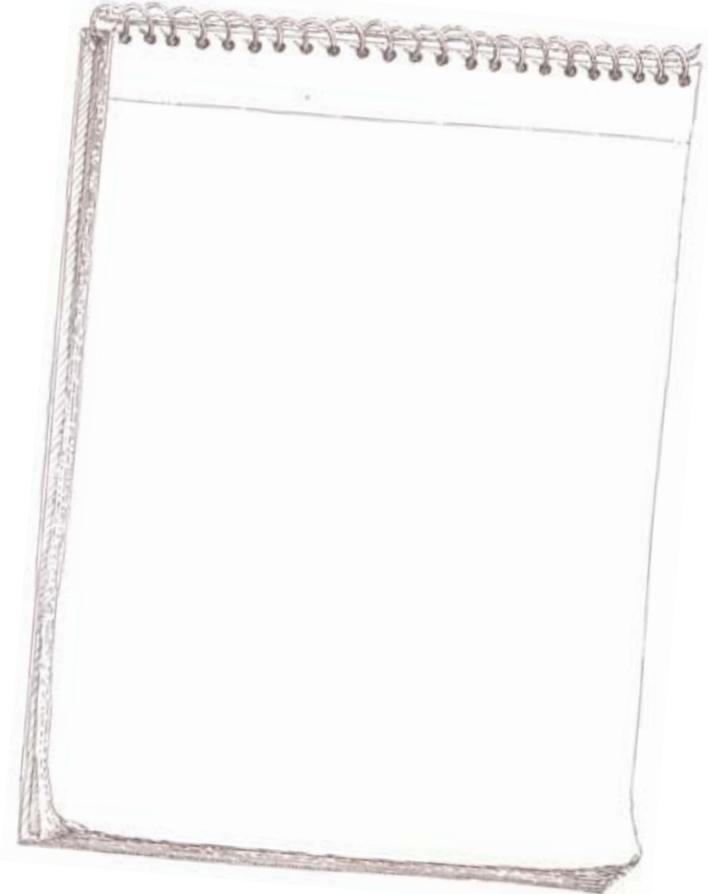
Animals must find food and water!

Some animals can only eat plants, like reindeer, while others, like the lynx only eat meat. The giant short-faced bear, an ice age animal, had special adaptations for eating meat. Why isn't the giant short faced bear here anymore? Find out on-line.

Animals must avoid predators!

Many animals survive by finding ways to stay out of danger. The arctic hare camouflages or hides in the snow because its fur changes to white in the winter. Other creatures, like musk-ox live in groups to protect each other. How does a group of Musk-ox protect themselves? Go to www.nps.gov/bela/kids

Directions: Use this Junior Ranger notebook page to make up your own animal with adaptations to survive in Bering Land Bridge National Preserve.



Bonus Activity!

What kinds of adaptations do you and your family have that allow you to survive?



Activity 7: A Climate of Change

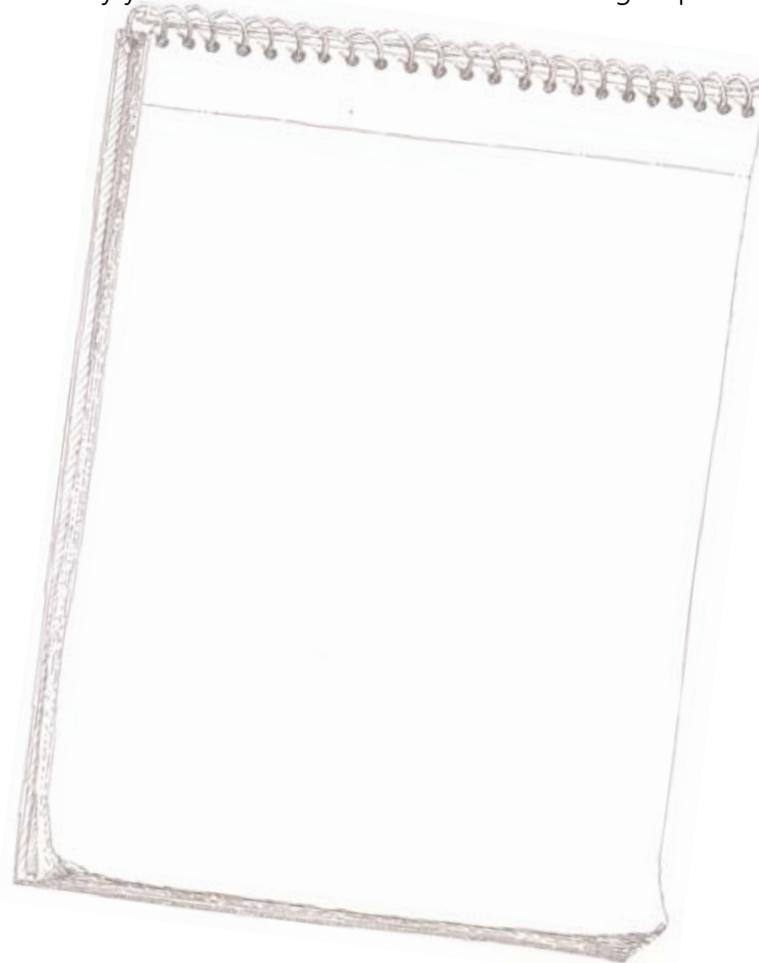
Did you know that during the last major ice age, 18,000 years ago, the world was only 7 degrees colder than it is today? Even though this doesn't seem like much, the climate was different enough to cover most of North America in a huge glacier. This was the time of the Bering Land Bridge!

Weather is constantly changing. Today it might be sunny and tomorrow it might rain. Weather changes everyday and is measured everyday. **Climate** changes too, but unlike changes in the weather, climate change occurs over many years. Scientists measure climate in groups of 30 years because it usually takes a long time to notice a difference.

Climate determines the types of plants and animals that can live in specific habitats around the world. For example, wildlife living in the arctic tundra have adaptations to allow them to survive in a cold climate. If the climate gets warmer, forests may start to grow over the tundra, changing the habitat. The plants and animals will have to make new adaptations to survive.

Directions: Use the Junior Ranger notebook page on the right to write a short story about how a change in climate would affect your favorite arctic animal and answer these questions:

1. *What is the name of your favorite arctic animal?*
2. *If it gets warm enough for trees to grow and there is less tundra will your animal be able to find food?*
3. *Where will it live?*



1° F

Scientists have discovered that global temperatures have increased by one degree Fahrenheit on average over the last hundred years.



Activity 8: Pollution Detective



Did you know that we play a huge role in what happens to our climate in the future? Discover ways you can start making the climate better in this activity!

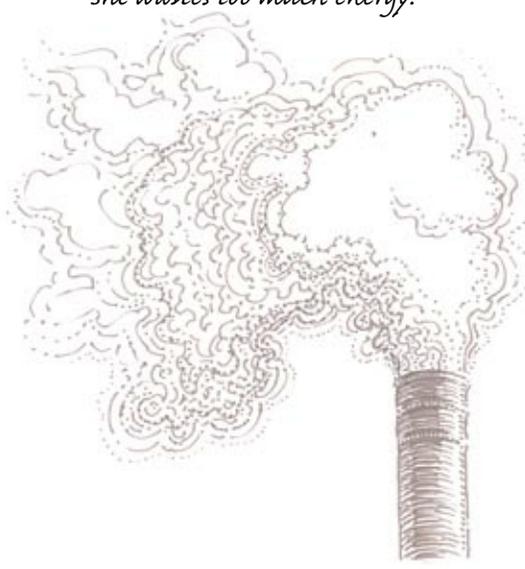
Scientists think that the pollutants that we send into the air, called Greenhouse Gases, are making our planet warmer. As our planet gets warmer, our climates are actually changing. Bering Land Bridge National Preserve and other arctic areas are good places to study climate change. The habitats are very fragile and are changed a lot by pollution and climate change. Warmer temperatures are melting sea ice. This makes it hard for seals to find safe places on the sea ice to have their babies. It also causes the ocean to rise and come further on shore, flooding the land where people live!

Directions: Your job is to be a detective and help solve the climate change crisis. As you walk around your neighborhood, park, school or home, make a list of possible pollution sources. Then complete the chart below filling in the cause, the problem and your solution. Remember, big changes start small!

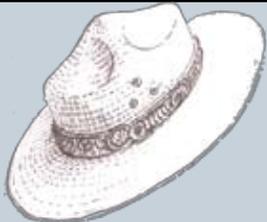
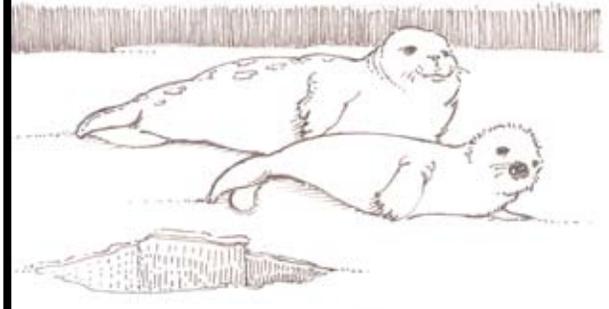
Observation
My neighbor leaves her lights on all day.



Problem
She wastes too much energy.



Solution
She can save energy by turning off her light when she leaves the room.



Bonus Activity!

If every American home replaced 1 light bulb with an energy-efficient bulb, enough energy would be saved to light all the homes in Alaska for four years! Have your family change one lightbulb.



Activity 9: Our Favorite Plants to Eat

Plants have always played an important role for life on the Seward Peninsula. For centuries, plants have been used by both people and animals to create food and medicine.

Plants as Food:

Fireweed: People make tea and jam out of this flower which is found in the spring and fall.

Willow: The leaves are picked for spring salads. The inside of the bark can be shredded and cooked like noodles.

Wild berries: You can find lots of blueberries, cranberries and blackberries that are very yummy to eat or make into pies or jams.

Plants as Medicine:

Labrador Tea: This is a small bush is found in the tundra and can be made into tea to help with colds.

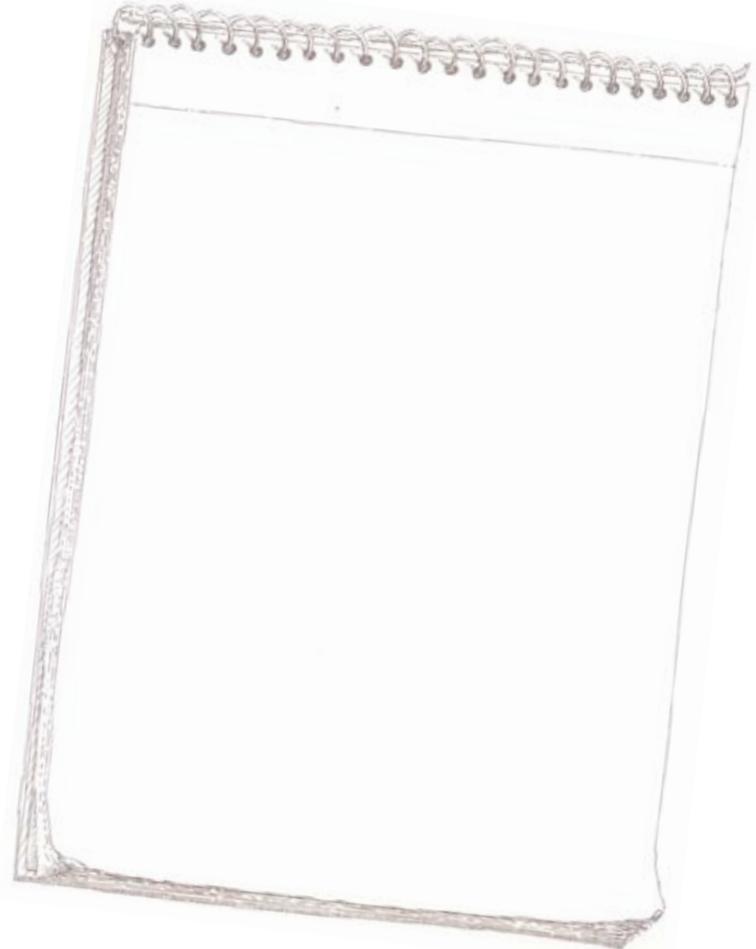
Roseroot: This plant is packed with vitamin C. The thick, juicy leaves cool burns like Aloe Vera.

Wormwood or "Stinkweed": It has a stinky smell, but is a good medicine to heal cuts..

Be sure to check with an elder, your parents or a park ranger to identify plants before you eat them.



Directions: Make a list of your favorite plants. Write down the names of other animals you think eat the same plants.



400

You can find over four hundred species of plants on the Seward Peninsula! In a National Park you should not pick any plants unless you eat them right away or are collecting them for subsistence.



Activity 10: Native Plant Rubbings



Directions: Your job is to go outside and find a plant for each category. When you find one, put a piece of paper over a leaf or another interesting part of the plant and rub the top of the paper with a crayon or pencil. This is called a **rubbing**. When you are done, you will have a very cool image! You can go to our web site and print off a Junior Ranger notebook page or recycle a piece of scrap paper.

What to find:

Sedge: Remember, "sedges have edges"! Sedges differ from grasses in your yard by having solid, angular stems. They are found in wet, marshy areas around the world. Bear eat sedges in the spring before the berries are ripe.

Grass: Remember, "grasses have joints"! They differ from sedges by having jointed stems. They also have long, slender leaves and grain like seeds. Not only can animals eat grasses as food, but some grasses are used by people for making baskets.

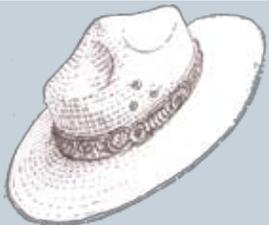
Shrub: Shrubs have woody stems that branch out close to the ground, like willows. Small animals like arctic hares sleep under willows. Why do you think they choose to sleep there instead of out in the open on the tundra? Find out at www.nps.gov/bela/kids



Moss: Mosses are small, soft plants that grow close together in clumps. Mosses are very old plants they were around during the time of the dinosaurs. Look for mosses on rocks or near a creek, but be careful it can be slippery!

Trees: Trees have one main trunk sticking up from the ground and smaller, leafy branches higher up. Try rubbing the bark. The nearest forest to Nome is 70 miles away at Council. Why do you think that there are not many trees in the tundra? Discover the reason at www.nps.gov/bela/kids/

Flowers: These plants have soft stems and flowers that bloom in the warmer seasons. Because these plants are soft, they are not very good for rubbing. Try stamping or pressing the plant on your page instead!



Bonus Activity!

You can make fun craft projects with plants too! Use the rubbings you made along with pictures you have taken to make a collage for your family and friends!



Activity 11: Garbage Sleeping Bags

In Alaska, a lot of people spend time hunting, at fish camps or riding on their snow machines outside. This activity will help you understand what you can do to be safe in an outdoor emergency if you have to wait for help to come.

Seven Steps to Wilderness Survival:

1. Recognition: "Oh no I'm in trouble!"

The first and most important step is recognizing that you are in an emergency and if you don't do something about it you could die.

2. Inventory: "What do I have that I can use?"

Here you should STOP- sit, think, look around, plan your next move.

3. Shelter: "I need to stay warm!"

Building a place to stay warm out of the weather is your next step.

4. Signals: "I need help over here!"

You should then let people know where you are and that you need help by making a fire or reflecting sunlight in a mirror.

5. Water: "I must avoid dehydration!"

We can only live a few days without water, so you must find clean water or boil dirty water.

6. Food: "I must eat safe food!"

Remember, if you don't know it, don't eat it! Explore with your parents or a park ranger what is safe to eat!

7. Play: "Keep a positive attitude"

Keep yourself busy. Think like a survivor!



Directions: Pretend you and your friends got lost in the park while hiking and it is snowing. Your need to make a shelter to stay warm.

Your job is to practice make a sleeping bag out of 2 extra garbage bags and leaves you can collect from outside. Now get in and see if you stay warm! Make sure you have an adult with you to help!

80%

Survival takes 80 % attitude, 10 % equipment, and 10 % skill to use the equipment! That means you need to try to keep busy and remember that family and friends will be looking for you.

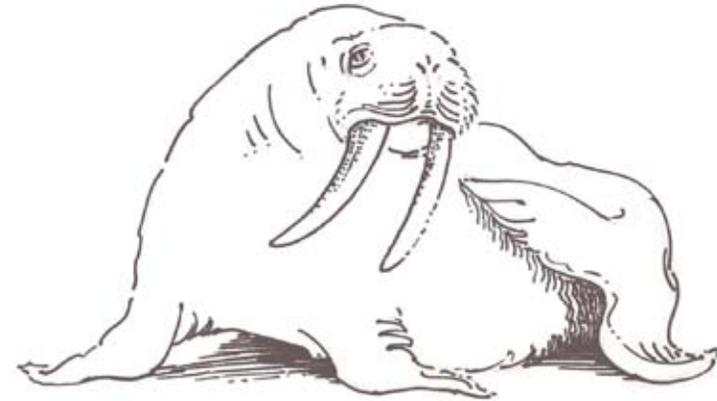


Activity 13: Subsistence Living

The Inupiaq people have lived in Northwestern Alaska for thousands of years. They survive by hunting wildlife for food, clothing, tools, and shelter and by gathering plants for food, medicine and dyes. This is called **subsistence**.

Subsistence hunting of moose, caribou, whale, duck, fish and other wildlife is still very important for Inupiaq people.

Directions: Walrus are very important for subsistence hunters because so much of the walrus can be used in so many different ways. The images below are items that Inupiaq people traditionally make from a walrus. Draw lines to match the traditional items to the words for similar things that we use today.



Ivory Earring



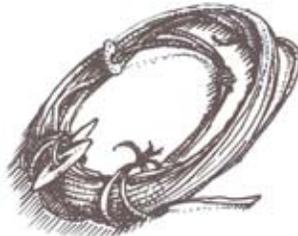
Gut Skin Parka



Walrus Steak



Skin Kayak



Walrus Skin Rope



Bow Drill

Hamburger

Power Drill

Raincoat

Jewelry

Wooden Boat

2.7

Bering Land Bridge National Preserve covers 2.7 million acres of land on the Seward Peninsula. This land is protected to save historical artifacts, sport hunting and for subsistence.



Activity 14: Inupiaq Language and Oral Tradition



For thousands of years, the Inupiaq people have shared their history through telling each other stories about the past. This is called an **oral tradition**.

These stories were told to teach children lessons or to share information about hunting, trading and family history.

However, like many native communities around the world, some traditional Inupiaq language was lost when European explorers moved into Alaska. Because of this, many younger Inupiaq people only know how to speak English.

Today, it is mostly village elders who still speak Inupiaq. Luckily, many schools are teaching Inupiaq to their students so that the language isn't completely lost.

Below are some Inupiaq words that you can learn! To listen to how the words sound, go to the website: www.nps.gov/bela/kids

agnasralluq- animal

quliaqtuaq- story

akutuqpak- plant

ilisaqtuq- learn

pakiktuq- explore

natignaq- tundra

tuwlagaa- protect

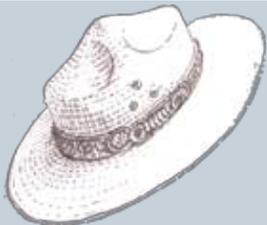
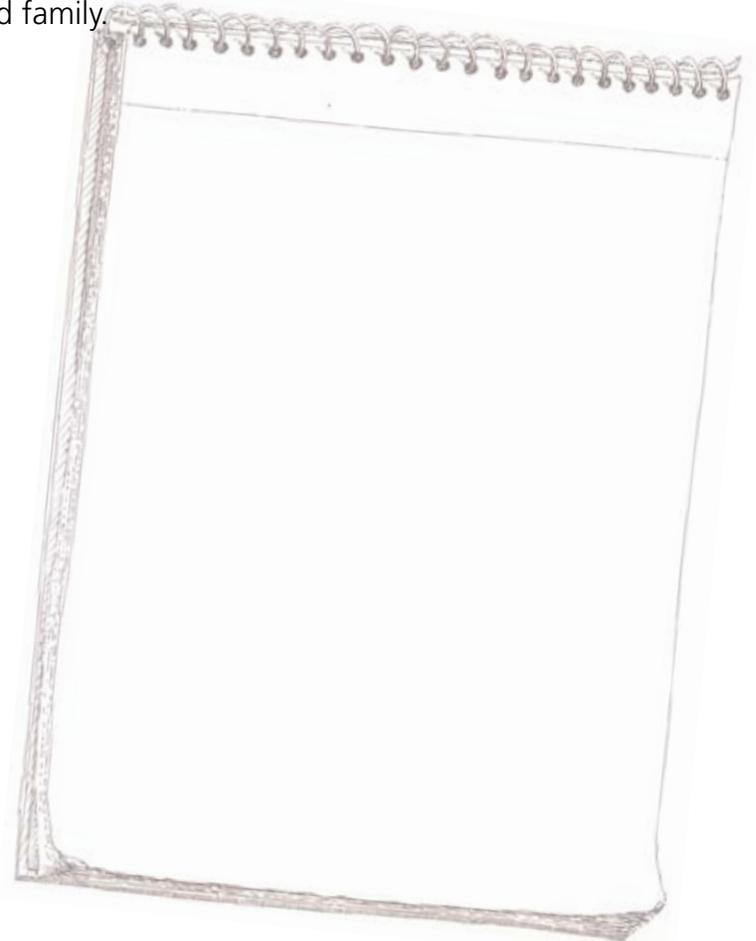
taikuu- thank you

Project Jukebox

Listen to oral stories of reindeer herders living on the Seward Peninsula.

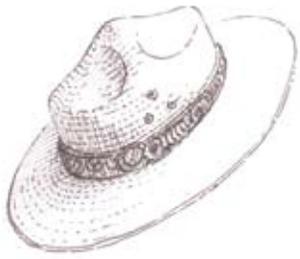
<http://uaf-db.uaf.edu/Jukebox/reindherding/home.htm>

Directions: Use the notebook page below to write your own story about your experience as a Junior Ranger. Try to use a few of the Inupiaq words you learned. Then tell the story to your friends and family.



Bonus Activity!

Start your own oral tradition with your family. Ask your parents to tell you a story about their past or about a story their parents shared with them!



Some More Fun Stuff.....

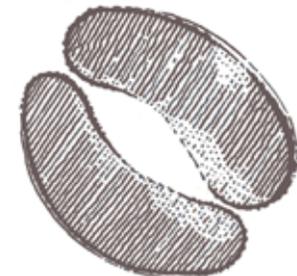
Congratulations on your hard work in becoming a Junior Ranger! Once you have completed six activities in this booklet, take it to a park ranger to get your patch and certificate! Remember, your journey as a Junior Ranger doesn't stop here! Use the rest of the pages in this book or visit our web site (www.nps.gov/bela/kids) to see how to continue **exploring**, **learning**, and **protecting** nature!

Take the Junior Ranger Pledge!

"As a Junior Ranger, I promise to explore the natural world around me; to learn about the history of the places I visit; to challenge myself and others to protect the plants and animals that share the Earth with us."

Use Your Junior Ranger Toolkit!

By attending the eight week summer Junior Ranger Program, you will collect tools to help you discover the world around you. If you cannot attend the summer program, you can make your own kit at home. Visit our web site to find out how! www.nps.gov/bela/kids



musk-ox tracks

Leave Your Mark!

The toolkit is just a start. Like the people who traveled across the Bering Land Bridge thousands of years ago and the animals that live on the Seward Peninsula today, you will leave your own footprint on time. It is up to you to decide what kind!

As a Junior Ranger you can invent new ways of protecting and conserving the environment! Be creative! Get your friends, family, and school involved too. Big changes start small!

Answer Key:

Activity #3: 7, 4, 5, 3, 9, 1, 8, 6, 10, 11, 2

Activity #12: garbage bags, rope, signal mirror, whistle, aluminum foil, matches, pocket knife, medicine, compass, flashlight, food, water, bear spray, warm clothes (Secret Answer: Survival Kit)



Make Your Own Junior Ranger Notebook

You can create more drawings, photographs and observations from your time outside or brainstorm ideas for your own activities! Make copies of this page or print them off from our website.

Wildlife Observations

Name of animal:

Where it was seen:

What it was doing:

How many there were:

Weather:

Date: Time:

Your Name:

Field Drawings, maps or photos

Title:

Describe your drawing, map or photo:

Your Name:

Date: Time:

Location:

Special thanks to:

Rebecca Brisco-Rhone (designer), Kathryn C. Mallory (illustrator), Nichole Andler, Tom Heinlein, Alaska Geographic Association, and the 2007 Bering Land Bridge National Preserve Junior Rangers and their parents for their contributions.



Zachary, age 9



Hannah, age 9

Winners of the 2007 Junior Ranger Art Competition, "What Bering Land Bridge National Preserve Means to Me".



This Junior Ranger booklet was funded by the National Park Foundation, national charitable partner of America's National Parks. The National Park Foundation supports the NPS Junior Ranger program as part of their nationwide effort to connect children to America's heritage and ensure the future of our national parks.

To learn more about the online NPS Junior Ranger program, visit www.nps.gov/webrangers.