



**JUNIOR RANGER BOOK**

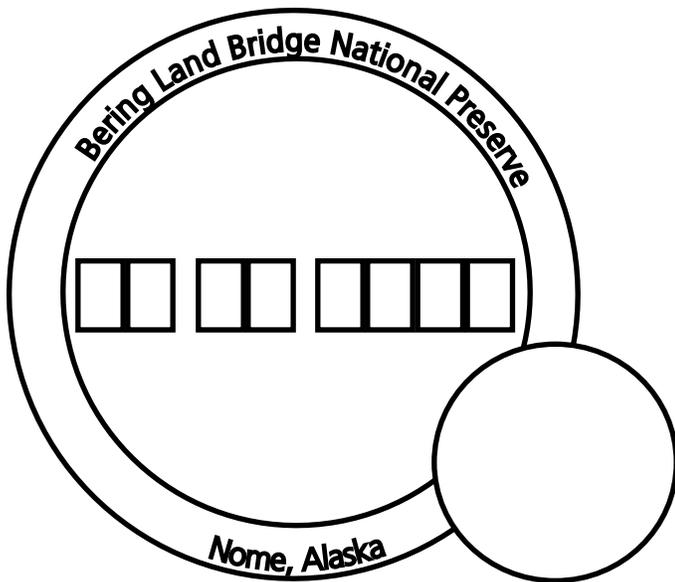
# WANT TO BECOME a JUNIOR RANGER?

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:

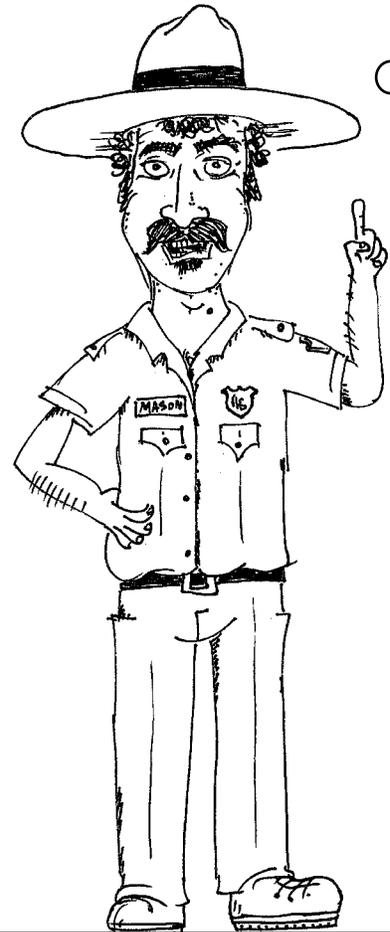
Junior Rangers who complete at least eight (10 & up) or six (6-9 year olds.) out of the 18 activities in this booklet will receive a colorful patch and certificate honoring their accomplishments. Just send your booklet to: Bering Land Bridge National Preserve, PO Box 220, Nome, AK 99762. We will send back your booklet, your patch and certificate.

**LOOK FOR INTERESTING FACTS AND AT HOME ACTIVITIES YOU CAN DO FROM RANGER MASON AT THE BOTTOM OF EACH PAGE.**



**NAME:** \_\_\_\_\_

In Nome, check out the Bering Land Bridge Visitor Center to stamp your Junior Ranger book in the smaller circle above. If you are not in Nome, create your own stamp. Fill in the squares with the date you finish your 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!**

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CHECK OUT THE EXTRA PAGES IN THE BACK OF THIS BOOKLET! USE YOUR IMAGINATION TO CONTINUE EXPLORING, LEARNING, AND PROTECTING!



# SECTION 1: THE NATIONAL PARK SERVICE



"The service thus established shall promote and regulate the use of the Federal areas known as national parks .... which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."  
THE ORGANIC ACT of 1916

What is an organization without a great logo?

Logos serve as tools for recognition. They are used to symbolize an organization or group and to help form a long-standing iconic association. A good logo is simple, meaningful, and shares an important message. Up until July 20, 1951 The National Park Service used a sequoia cone as its logo. However, the sequoia cone was retired because it was not symbolic of any greater message. Thus the current arrowhead logo was adopted.

The National Park Service Arrowhead symbolizes the major components of the nation park system. The scene within the arrowhead depicts a healthy bison grazing alongside a giant sequoia. The backdrop shows monumental mountains with a pristine lake at its base. Each one of these images symbolizes the different themes the National Park Service stands for. The bison and sequoia tree represent the preservation and conservation of our nation's exceptional vegetation and wildlife. The mountains and water show the importance of scenic value, as well as responsible recreational use. All of these images are enclosed in the arrowhead, representing historical and archeological treasures which inspire the preservation of our Nation's history.



**THE NATIONAL PARK SERVICE WAS ESTABLISHED ON AUGUST 25, 1916 BY PRESIDENT WOODROW WILSON.**

# ACTIVITY 1: NATIONAL PARK SERVICE

Match each drawing to its correct meaning on the right. Then, draw the mountain, tree, lake, and buffalo in the right place on the Arrowhead. Look at the arrowhead on the page before to help you put things in the correct place!

What do you think the arrowhead stands for?

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stands for protecting wildlife

stands for protecting recreational values

stands for protecting plants

stands for protecting scenic values



ESTABLISHED IN APRIL 1952, THE ARROWHEAD HAS BECOME THE SYMBOL OF THE NATIONAL PARK SERVICE.



# ACTIVITY 2: 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.



## DIRECTIONS:

Use the Ranger Notebook to invent your own recycled creation! Label the things you used.

**WHAT DO YOU RECYCLE AT HOME? MAKE RECYCLED PAPER.  
FOR THE FORMULA GO TO [WWW.NPS.GOV/BELA/FORKIDS](http://WWW.NPS.GOV/BELA/FORKIDS)**



# SECTION 2: ARCHEOLOGY AND HISTORY



Archeology is the study of past human societies, primarily through the recovery and analysis of the material culture and environmental data which they have left behind, which includes artifacts, architecture, biofacts and cultural landscapes.

Time lines are an important tool to help understand different themes and times in history by showing important events within a period of time.

These can include anything from human activities such as wars, important inventions or famous person being born. An example is the time line of the history of Beringia. Showing the important events that have happened in the area during the last ice age, for example, between 25,000 and 13,000 years ago, when the first humans crossed the land bridge, 10,000 years ago when water covered the land bridge ending the ice, finally the creation of Bering Land Bridge National Preserve in 1980. You can also include other major events during that time period that can help people think of what else happened during that time, like the United States Declaration of Independence being written, or Yellowstone National Park being founded.



Map of the Bering Land Bridge or Beringia at the height of the last Ice Age.

**BONUS ACTIVITY!**  
**ARCHEOLOGISTS LEARN ABOUT PEOPLE BY FINDING**  
**ARTIFACTS. MAKE A TIME CAPSULE OF YOUR "ARTIFACTS".**

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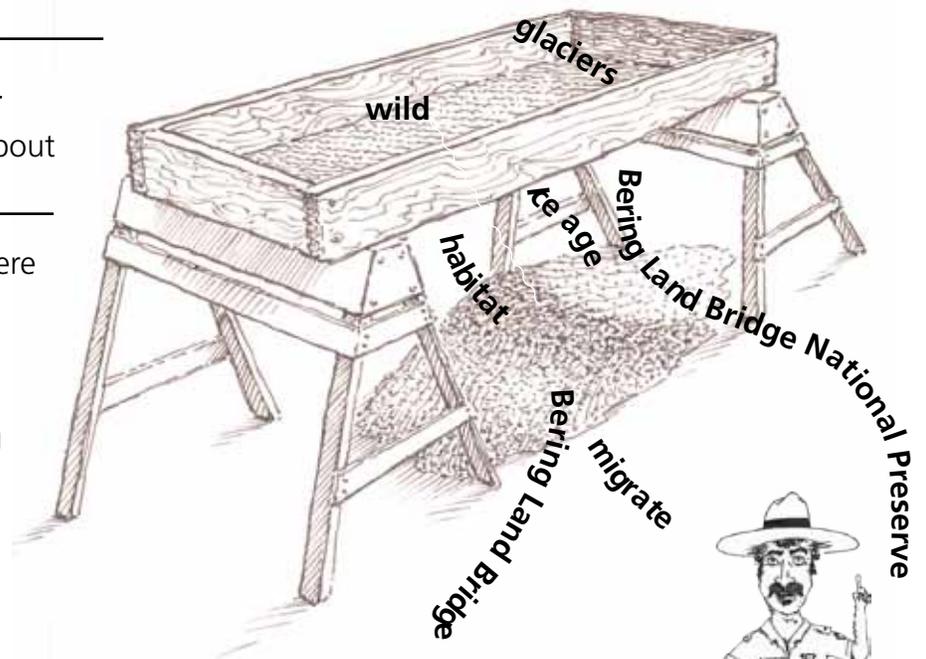
# ACTIVITY 3: A JOURNEY BACK IN TIME

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.

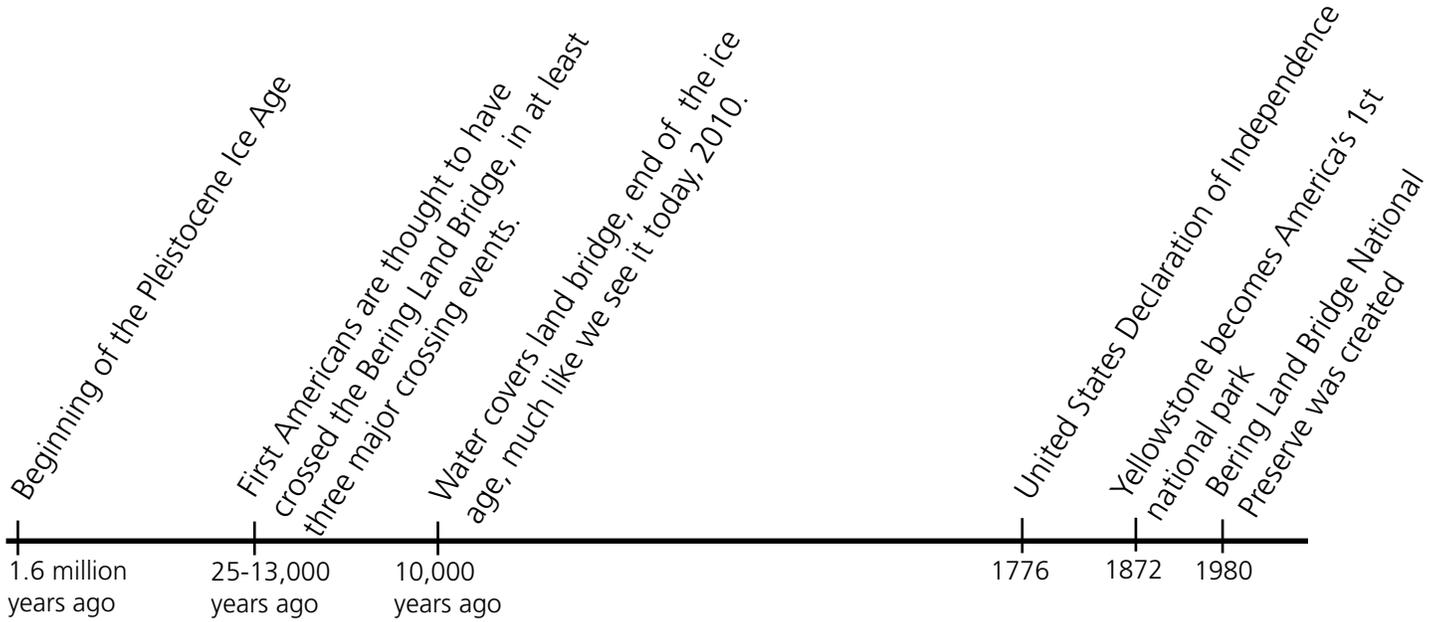


**THE WORD "BERINGIA" IS ANOTHER NAME FOR THE BERING LAND BRIDGE. IT IS NAMED AFTER EXPLORER VITUS BERING.**



# ACTIVITY 4: RECORD YOUR HISTORY!

Now for creating a time line about your life you can put down important events that have happened in your life like the year you met your best friend, when you started going to school, to going on a family vacation. You could also include other important events that have also happened in the world to give people a perspective of what else has happened during your time period. Adding photographs to each event can also enhance peoples understanding of what is was like during that event.



**DIRECTIONS:** 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!

When I was born

Today

**BONUS ACTIVITY!**  
LIKE A TIME LINE A JOURNAL RECORDS HISTORY. CHARLES DARWIN KEPT A JOURNAL OF HIS TRAVELS, DO YOU?



## SECTION 3: THE ICE AGE

Between 10,000 and 25,000 years ago, a large amount of the world's water was locked up in giant ice sheets called glaciers. This was the last great ice advance during the Pleistocene Ice Age known as the Wisconsin Glacial Period. These great glaciers could be up to 2 miles high. With water frozen on land as glaciers, not going back into the oceans, the water level dropped dramatically. When the water levels dropped new land emerged forming a land bridge connecting Asia to North America. The Bering Land Bridge also known as "Beringia" was a passage for animals, plants, and humans to migrate between Asia and the Americas. Near the end of the ice age, when the climate was becoming warmer and the glaciers melted, the land bridge was flooded by water once again. Many species could not adapt and survive to this rapid change in climate. Other species of animals moved in and used the resources and space available called habitat. Bering Land Bridge National Preserve was established to protect a remnant of the Bering Land Bridge for study and education. You can only get there on foot, small aircraft, or snowmobile. There are muskox and caribou roaming the tundra, salmon, and migratory birds. It should remain in this state for present and future generations to enjoy.



**THE BERING LAND BRIDGE WAS NOT A THIN STRIP OF LAND CONNECTING ASIA TO AMERICA; IT WAS OVER 1000 MILES WIDE FROM NORTH TO SOUTH.**



# ACTIVITY 5: A WOOLLY WOOLLY MAMMOTH

Woolly Mammoths had a two layer coat. The under coat was fuzzy and like wool; it kept the mammoth warm. The outer coat was made of longer, rougher hairs that protect the under coat, keeping it clean and dry.



**DIRECTIONS:** Make a warm two layer coat for your woolly, Woolly Mammoth. You can use, cotton balls, yarn, fake fur, felt, or two different colors of crayon. Make the under coat warm and woolly and the outer coat long and stringy. Have fun and be creative!

## BONUS ACTIVITY!

MAKE A WOOLLY MAMMOTH PUPPET WITH A BROWN PAPER BAG, BENDY STRAWS, GOOGLEY EYES, CRAYONS & GLUE.

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# ACTIVITY 6: MODERN ICE AGE WILDLIFE

Did you know that muskox are an animal that survived the ice age? You can still see herds of them in Bering Land Bridge National Preserve, the rest of the Seward Peninsula and other polar areas.

Muskox have many adaptations for surviving the sub-arctic cold; one is by warming the cold air they breathe before it enters their lungs. They do this with a long, spiraling nasal cavity that the air travels through being warmed along the way. When we breathe in air, it travels through our nose cavity before reaching our lungs. As a breathe travels, it is in contact with the warm surface of our nasal cavity. This warms air before the air is drawn into our lungs.

## DIRECTIONS:

You will need three cardboard toilet paper tubes, scissors, yarn or some other string, and a yard stick.

1. Cut one cardboard tube along a strait line, down one side.  
Then cut the second roll along the spiral in the tube. Put the third tube aside.

The tubes that you cut represent two different types length's of nasal passage. Will one be longer than the other or do you think they will be the same? \_\_\_\_\_

2. Lay your cut tubes out flat.  
Use your string to measure the length from corner to corner diagonally. Mark the spot on the yarn and measure the length. Record it here \_\_\_\_\_  
Lay out the spiral cut tube, measure from corner to corner diagonally with yarn and yard stick.  
How long was that diagonal? Record it here \_\_\_\_\_

Which one is longer? \_\_\_\_\_ If the yarn you used to measure the diagonals was a breath a muskox took which one would be warmer? \_\_\_\_\_ That's right the one cut on the spiral because the air would have to travel longer path with the spiral.

3. Build a better Muskox Nose -- Use your third tube and cut it on a spiral and try to make the spiral as long as you can. Challenge your friends and family to try to make a longer spiral than you.



**MUSKOX HAVE A TWO LAYER COAT. THE OUTER LAYER IS MADE OF LONG GUARD HAIRS THAT PROTECT UNDER LAYER CALLED QUIVIUT, ONE OF THE WARMEST FIBERS ON EARTH!**



# SECTION 4: WILDLIFE ADAPTATIONS

All of the animals that live in Bering Land Bridge National Preserve and the Seward Peninsula must 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!

## EXTREME COLD WEATHER ADAPTATIONS

**CARIBOU-** The caribou has an uncommon fur coat. Each hair is hollow and holds warm air close to the Caribou's body. The warmed air create a comfortable barrier around the caribou much the same way that your sleeping bag keeps you warm even though it is filled with fluffy insulation that allows air in.

**MUSKOX-** Muskox have a two part coat. They have long guard hairs that cover warm fluffy wool that is called quiviut. While this warm undercoat is nice in winter, it is too hot for the muskox in the summer. When summer comes, muskox are able to shed their quiviut. Once it starts getting cold out muskox begin growing a new under coat to prepare for the long winter.

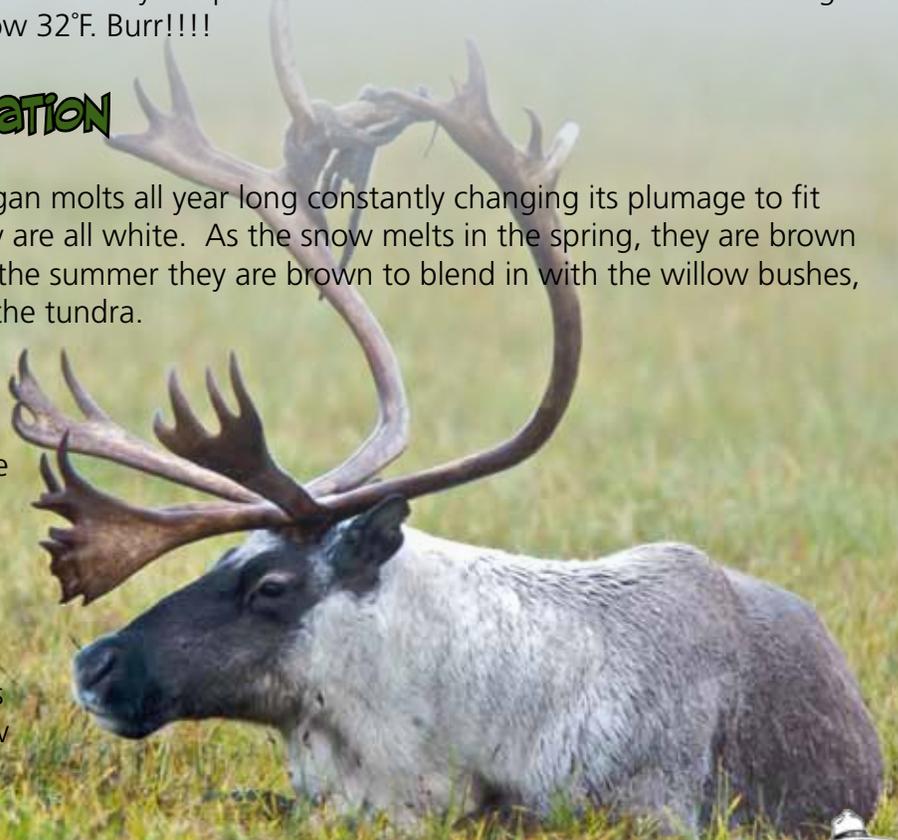
**ARCTIC GROUND SQUIRREL-** Arctic Ground Squirrels hibernate underground for up to eight months. During the warm months when seeds are plentiful, ground squirrels will spend their time eating, raising young, and watching for predators, but mostly eating. During the summer feeding frenzy, they will almost double in weight. Once winter comes they sleep in a burrow on a moss covered bed. During this time their body temperature drops below 32°F. Burr!!!!

## CAMOUFLAGE IS AN ADAPTATION

**WILLOW PTARMIGAN** The willow ptarmigan molts all year long constantly changing its plumage to fit into its environment. In the winter, they are all white. As the snow melts in the spring, they are brown and white, just like the ground, and in the summer they are brown to blend in with the willow bushes, ground cover, and rocks spread across the tundra.

**SNOWSHOE HARE-** The Snowshoe hare adapts similarly. In the winter it has a fluffy snow white coat which covers the hare from head to toe. Even its feet are blanketed to keep the hare warm during the long winters. When the snow starts to melt the snowshoe hare begins to shed this thick white coat. During the spring they begin ten weeks of shedding. By summer time the snow shoe hare is all brown

NPSPhoto/Roy Wood



## BONUS ACTIVITY!

VISIT A PARK OR REFUGE NEAR YOUR HOME AND RECORD YOUR OBSERVATIONS WITH YOUR FAMILY. TAKE PICTURES!

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# ACTIVITY 7: ARCTIC ADAPTATIONS

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



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 SPRING!



# ACTIVITY 8: WILDLIFE BINGO

LAND MAMMAL _____	DUCKS, GEESSE & SWANS _____	LAND BIRD _____	FISH/ AMPHIBIAN _____	LAND MAMMAL _____
FISH/ AMPHIBIAN _____	SHOREBIRD _____	OWLS _____	LAND MAMMAL _____	FISH/ AMPHIBIAN _____
OWLS _____	LAND BIRD _____	LAND MAMMAL  Human _____	BIRDS OF PREY _____	LAND BIRD _____
CRUSTACEAN _____	SHOREBIRD _____	MARINE MAMMAL _____	LAND BIRD _____	DUCKS, GEESSE & SWANS _____
SEABIRD _____	LAND MAMMAL _____	DUCKS, GEESSE & SWANS _____	CRUSTACEAN _____	BIRDS OF PREY _____

**DIRECTIONS:** Use the card above to play a game of wildlife bingo! Fill in the name of the animal in the box that describes what type of animal they are. 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!

## BONUS ACTIVITY!

MAKE A FIELD GUIDE TO THE PLANTS AND ANIMALS IN YOUR BACK YARD. SHARE IT WITH VISITING FRIENDS AND FAMILY.



# SECTION 5: CLIMATE CHANGE

Did you know that during the last major ice age, 10,000 to 25,000 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. A really cold day or even a week does not mean Climate Change isn't happening and a really hot day doesn't mean it is. We need to look at the bigger picture, decades, not just a day or even a couple of years.

**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.

**The big picture** is that climate has changed several times throughout the history of the earth, getting warmer and getting colder. We are currently in the warmest period ever experienced on earth. Are humans the cause of this climate change? We are certainly a part of it. How much we are a part of it will be measured in the future. So we need to start trying to help now. Checkout this website with your parents: [www.nature.nps.gov/climatechange/overview.cfm](http://www.nature.nps.gov/climatechange/overview.cfm)

With increasing temperatures sea ice is forming later and melting sooner. 2007 saw the greatest melting of the polar ice cap on record.

**SCIENTISTS HAVE DISCOVERED THAT GLOBAL TEMPERATURES HAVE INCREASED BY ONE DEGREE FAHRENHEIT ON AVERAGE OVER THE LAST ONE HUNDRED YEARS.**



# ACTIVITY 9: SHRINKING ICE, SWELLING SEA

## WHAT IS CLIMATE CHANGE?

The earth is getting warmer. Over the past 100 years Earth's temperature rose by about 1°F. Scientists predict that Earth will continue to warm by about 2–6°F over the next 100 years. That may not sound like much, but think about this: During the last Ice Age, Earth was only 7°F cooler than it is today, and large sheets of ice called glaciers covered large parts of North America! The warming of Earth's climate is called global warming.

## WHAT IS HAPPENING TO THE SEA ICE?

With a warmer climate the sea ice is melting. Melting ice makes the ice melt faster. Sounds funny doesn't it? Sea ice acts like a mirror and reflects the sun's rays. Once that ice melts the darker colored ocean absorbs more heat melting more ice. Also as the ice melts and forms water, that water becomes lakes and rivers. The lakes are still water and are warmed by the sun and warm the ice around them. As the ice melts it is adding water to the ocean. The melting sea ice is causing the sea levels to rise.

**DIRECTIONS:** Get a clear glass and fill it half full with water. Add salt until it stops dissolving. Add a little bit more water to dissolve the left over salt. Add three freshwater ice cubes to the glass. Use a piece of tape or a sticky note to mark the water level in the glass. Leave the glass out on the counter until the ice cubes melt. Once the cubes have melted measure the level again.

Did the water level rise? Y or N

Was that what you expected?

Redo the experiment, but this time put a drop or two of food coloring in your ice cubes before you freeze them.

What could you see this time?

Did the water level still rise? Y or N

## BONUS ACTIVITY!

WHAT IS YOUR CARBON FOOTPRINT? FIND CARBON SHRINKING TIPS AT [WWW.DOYOURPARTPARKS.ORG/CLIMATE-ACTIONS](http://WWW.DOYOURPARTPARKS.ORG/CLIMATE-ACTIONS)

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# ACTIVITY 10: YOU ARE THE SOLUTION!

Did you know that we play a huge role in what happens to our climate in the future? You can make a difference, make a promise to change the climate.

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 climate is actually changing. Bering Land Bridge National Preserve and other arctic areas are good places to study climate change. The habitats are fragile and can be altered by climate change. Warmer temperatures are melting sea ice. The loss of sea ice has caused the shoreline in the village of Shishmaref to erode very quickly.

Make a list of at least three things you and our family already do to help fight climate change.

- 1.
- 2.
- 3.



This house fell down after a storm that eroded the beach out from under it. Thicker permafrost and earlier sea ice use to protect the beach from such dramatic erosion. No one was injured.

Make a pledge to begin doing two more things to fight climate change at home or school.

- 1.
- 2.

Your Signature \_\_\_\_\_

Your Parent's Signature \_\_\_\_\_



**IF EVERY AMERICAN HOME REPLACED 1 LIGHT BULB WITH AN ENERGY-EFFICIENT ONE, ENOUGH ENERGY WOULD BE SAVED TO LIGHT ALL THE HOMES IN ALASKA FOR FOUR YEARS!**

# SECTION 6: PLANTS

Many of the plants found in and around the Bering Land Bridge National Preserve have cool ways of adapting to the world around them.

**Woolly Lousewort-** The Woolly lousewort is a plant that can live in really cold places. It comes up early after the snow melts and is frost resistant. It is covered with small white hairs that look like wool. These hairs act like a greenhouse by trapping the heat from the sun. The stored heat keeps the plant warmer even when temperatures are too cold for other plants.

**Alaskan Poppy-** The Alaskan Poppy's have adapted to the short growing season by maximizing the amount of sun they receive. The plants flowers are able to track the sun while it moves across the sky. Scientists call this action heliotropism. By following the sun the plant is able to soak up more sunlight than other tundra plants helping to keep it warm. These warm conditions help attract insects that pollinate the plant.

**Alpine Azalea-** The Alpine Azalea is a plant that grows in cold mountain climates. It grows low to the ground in rocky and acidic soil where many plants can't grow. Alpine Azalea is an evergreen; it doesn't lose its leaves. This gives the plant a longer growing season. As soon as the snow melts the plant begins making food for itself unlike other plants that have to push out of the ground and grow leaves every year. It stays low to the ground to help it to avoid wind and it uses snow as an insulating shelter. Alpine Azalea is so successful that it is found across northern mountain ranges around most of North America and Greenland.



## BONUS ACTIVITY!

**COLLECT FALLEN LEAVES IN AUTUMN AND USE THEM TO MAKE A PICTURE OR COLLAGE.**

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# ACTIVITY 11: PLANT RUBBING

**DIRECTIONS:** Go outside and find a plant for each category. When you find one, use the back cover and place it 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!

## WHAT TO FIND:

**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](http://www.nps.gov/bela/kids)

**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/](http://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!



**YOU CAN FIND OVER 400 SPECIES OF PLANTS ON THE SEWARD PENINSULA. SOME ARE ENDEMIC, THAT MEANS THEY CAN'T BE FOUND ANYWHERE ELSE IN THE WORLD!**

# ACTIVITY 12: EVERYTHING IS SYMBIOTIC

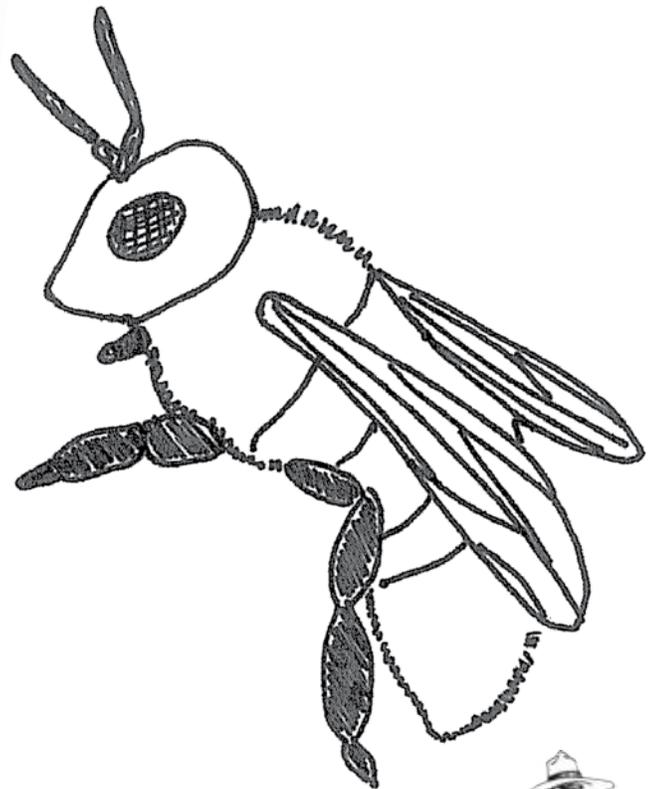
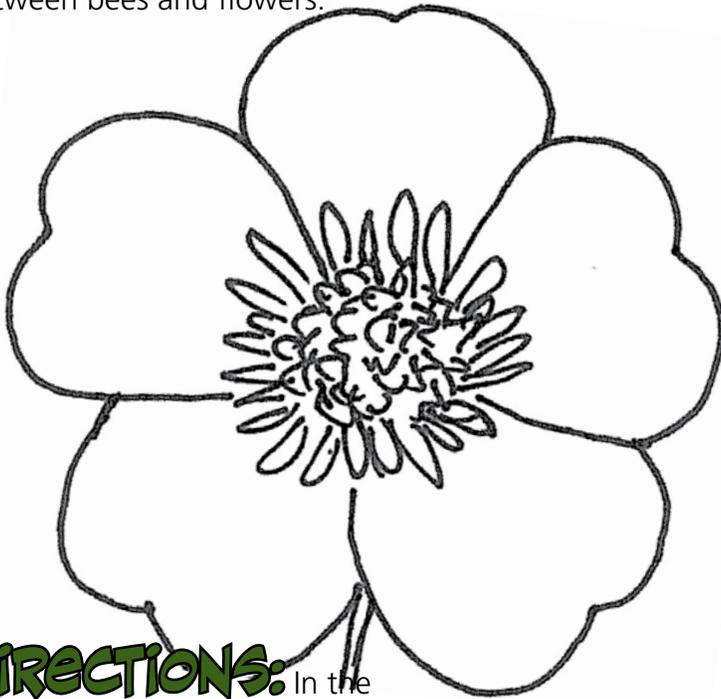
In addition to these four categories there is another important type of "plant" found in Bering Land Bridge National Preserve. Caribou depend on it for food in the winter time. Do you know what it is?

It's Lichen! Lichens cover the ground across most of the tundra. This type of lichen looks kind of like coral. They are only a few inches high and come in a variety of shapes and colors. Lichens are actually made up by two types living organisms, an algae and a fungus. They work together and both benefit from each other. This teamwork is known as a symbiotic relationship.



The lichen to the right is commonly called reindeer lichen. Do you have lichen where you live? \_\_\_\_\_

There is a symbiotic relationship that you can find in your own backyard! It is the symbiotic relationship between bees and flowers.



**DIRECTIONS:** In the bee's stripes write down how the bee benefits from this relationship. On the flower's petals write how the flower benefits from the bee.

## BONUS ACTIVITY!

IF YOU PICKED PLANTS TO RUB, RECYCLE THEM AND USE THEM TO MAKE NATURAL PLANT DYES.



# SECTION 7: BE A SURVIVOR!

You never know when an outdoor emergency may occur. In that case it is always good to be prepared. In Alaska, many people spend time outdoors. Be it hunting, at fish camp, or out riding a snowmobile; it is important to be ready for any emergency situation. Simple actions can be taken to prepare yourself for any outdoor activity. Remember, when going into the great outdoors tell someone where you are going,, always bring water, a snack, proper cloths, a first aid kit, and never go off on your own.

## 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 are in deep trouble.

### 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

### 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!

### 7. PLAY: "KEEP A POSITIVE ATTITUDE"

Keep yourself busy. Think like a survivor!

**SURVIVAL IS 80 % ATTITUDE, 10 % EQUIPMENT, AND 10 % SKILL TO USE THE EQUIPMENT! THAT MEANS KEEP BUSY AND REMEMBER THAT FAMILY & FRIENDS WILL BE LOOKING FOR YOU.**

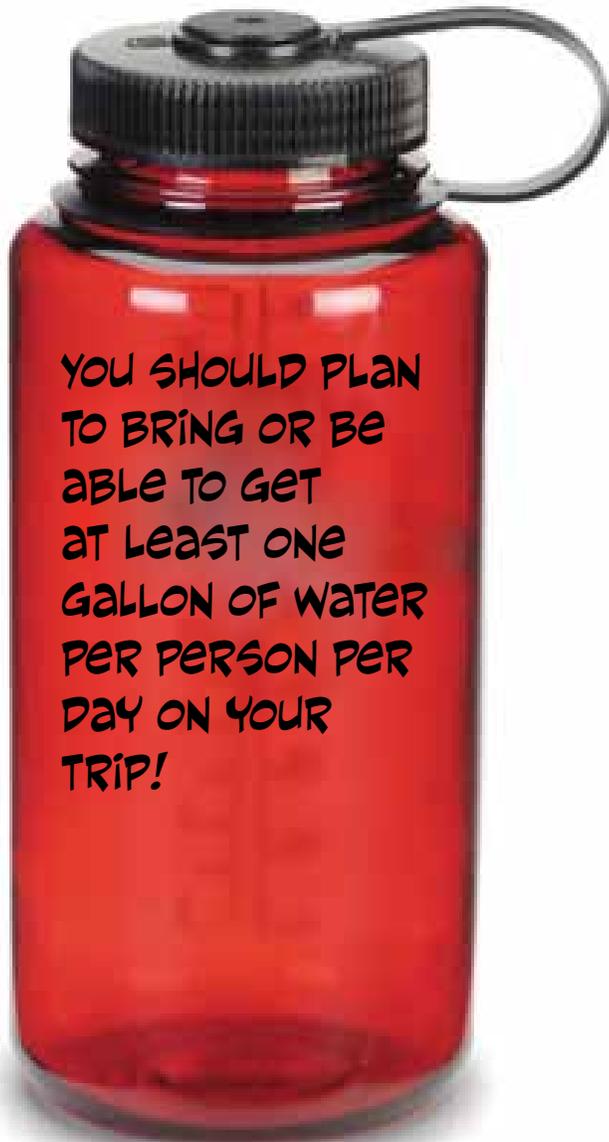


# ACTIVITY 13: GETTING WATER

Most people can survive a week without food, but only three days or less without water.

**DIRECTIONS:** Water can be obtained by placing clear plastic bags over the leafy branch of a non-poisonous bush or tree and tightly closing the bag's open end around the branch. Any holes in the bag must be sealed to prevent the loss of water vapor.

During photosynthesis plants lose water through a process called transpiration. A clear plastic bag sealed around a branch traps evaporating water and allows it to condense on the inside surface of the plastic bag. Gravity then causes the water to run to the lowest part of the bag. Water can be collected from the bag by opening. Reseal it and the leaves will continue to produce water as the roots draw it from the ground and photosynthesis occurs. If you don't have trees, try willow bushes or grass.



**YOU SHOULD PLAN  
TO BRING OR BE  
ABLE TO GET  
AT LEAST ONE  
GALLON OF WATER  
PER PERSON PER  
DAY ON YOUR  
TRIP!**

A standard water bottle, like the one on the left, can hold 32 ounces. 32 ounces is one US quart. There are four quarts in a gallon.

How many water bottles would you need to bring with you if you are going on an all day hike in warm weather?

Let's figure it out.....

There are 128oz in a US Gallon, & 32oz in a US Quart. We will need to use division to solve this problem.

$128 \div 32 =$  \_\_\_\_\_ bottles.

**ASK YOUR PARENTS PERMISSION BEFORE TRYING THESE ACTIVITIES. MAKE IT MORE FUN AND ASK THEM TO DO IT WITH YOU!**

## BONUS ACTIVITY!

**MAKE A SLEEPING BAG OUT OF 2 GARBAGE BAGS & STUFF LEAVES OR GRASS BETWEEN THE BAGS FOR INSULATION.**



# ACTIVITY 14: SURVIVOR'S SCRAMBLE

Do you know what you should have in case you are in a survival situation outside? This word scramble will help you figure out what you should pack in case of an emergency!

SALCIPT BAARGGE ABS	<input type="text"/>	<input type="text"/>	<input type="text"/>
POER	<input type="text"/>		
SILGNA MORRIR	<input type="text"/>	<input type="text"/>	
HILTSWE	<input type="text"/>		
LANMUIMU ILFO	<input type="text"/>	<input type="text"/>	
HCSATME	<input type="text"/>		
CEKTOP FIKNE	<input type="text"/>	<input type="text"/>	
NIIDECM	<input type="text"/>		
OCMSPAS	<input type="text"/>		
HILASHGTFL	<input type="text"/>		
FODO	<input type="text"/>		
WARTE	<input type="text"/>		
BERA SYARP	<input type="text"/>	<input type="text"/>	
MRWA TOELSCH	<input type="text"/>	<input type="text"/>	



## DIRECTIONS:

Unscramble each of the clue words to the above, it is a checklist of things you will need if there is an outdoor emergency. Copy the letters in the numbered cells to other cells with the same number to figure out the answer to the right.

What should you do with all of these items?

Put them in your:

<input type="text"/>								
1	2	3	4	5	6	7	8	9



**MAKE A CHECKLIST OF IMPORTANT ITEMS FOR YOUR FAMILY TO USE WHEN PACKING FOR A TRIP. KEEP IT WITH YOUR CAMPING GEAR OR LUGGAGE SO YOU'RE PREPARED!**

# SECTION 8: TRADITION AND CULTURE

Subsistence is a way that native peoples of Alaska preserve their cultures and heritage. The Inupiaq that live on the Seward Peninsula have been practicing subsistence for thousands of years. Some methods of harvest have changed over the years but many remain intact. Many plants and animals are used by the Inupiaq for medicine, food, clothing, shelter, and dyes. Some plants are used for medicinal qualities which include Spruce for vitamin C, Labrador Tea for disorders like heartburn, colds, and arthritis, Crowberries and Cotton Grass for colds and coughs. Some plants that are used as a food include: willows, cranberry, blueberry, salmonberry, fireweed, saxifrage, lichens, roseroot, woolly lousewort, wormwood, bladderwrack, and sea lettuce to name a few. There are many different species of animals used as food: moose, caribou, and muskox, salmon and other fish, birds, and marine mammals. All of these animals have different nutritional value. Subsistence defines the people of Alaska and the Seward Peninsula. In the picture below, notice that the woman and young girl are wearing boots (mukluks), mittens and fur ruffs around their hoods all made from materials collection through subsistence hunting.

The tradition of storytelling has been passed through many generations for thousands of years. The idea of oral stories are entirely committed to memory and then passed on from generation to generation. Stories are a means of entertainment, education, cultural preservation, and also a way to instill moral values. A lot of these stories can include anything from great hunting trips, berry picking, past life styles, family history, legends, beliefs, and much more. This is one of the ways the Inupiaq preserve their history, heritage, and culture. Until recently their stories and history were not written down. Oral stories were passed down from generation to generation are what keep the stories alive today.

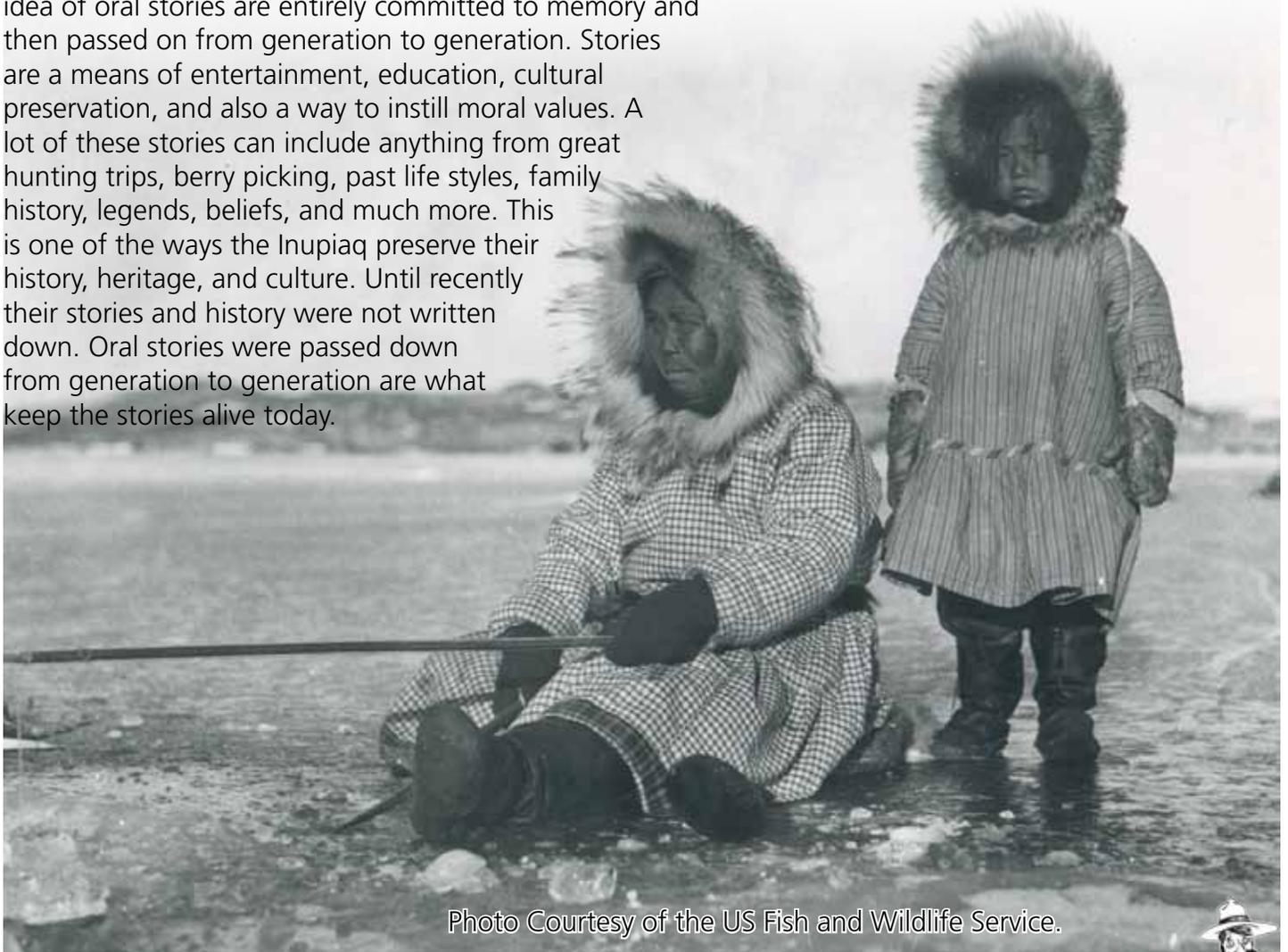


Photo Courtesy of the US Fish and Wildlife Service.

**BONUS ACTIVITY!**  
**MAKE A SCRAPBOOK OF TRADITIONS THAT ARE IMPORTANT TO YOUR FAMILY. ADD PICTURES AND MEMENTOS.**



# ACTIVITY 15: SUBSISTENCE LIVING

The Inupiaq people have lived in Northwest 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**.

**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.

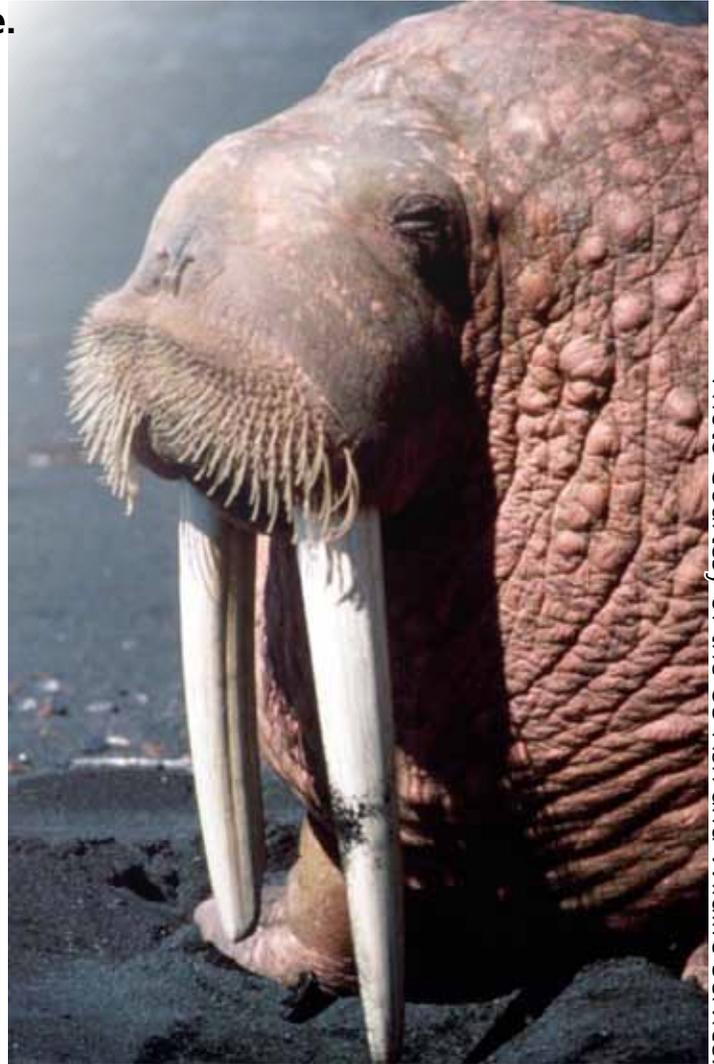


Photo Courtesy of the US Fish and Wildlife Service.

**HAMBURGER**

**POWER DRILL**

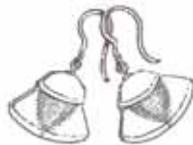
**RAINCOAT**

**JEWELRY**

**WOODEN BOAT**



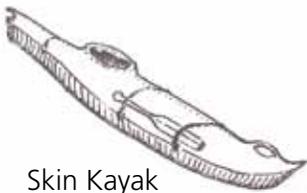
Gut Skin Parka



Ivory Earring



Walrus Coke (Steak)



Skin Kayak



Walrus Skin Rope



Bow Drill



**BERING LAND BRIDGE NATIONAL PRESERVE COVERS 2.7 MILLION ACRES. THAT'S ROUGHLY THE SIZE OF THE STATE OF TENNESSEE!**

# ACTIVITY 16: INUPIAQ LANGUAGE

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**.

**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.

agnasralluq -animal

quliaqtuaq -story

akutuqpak -plant

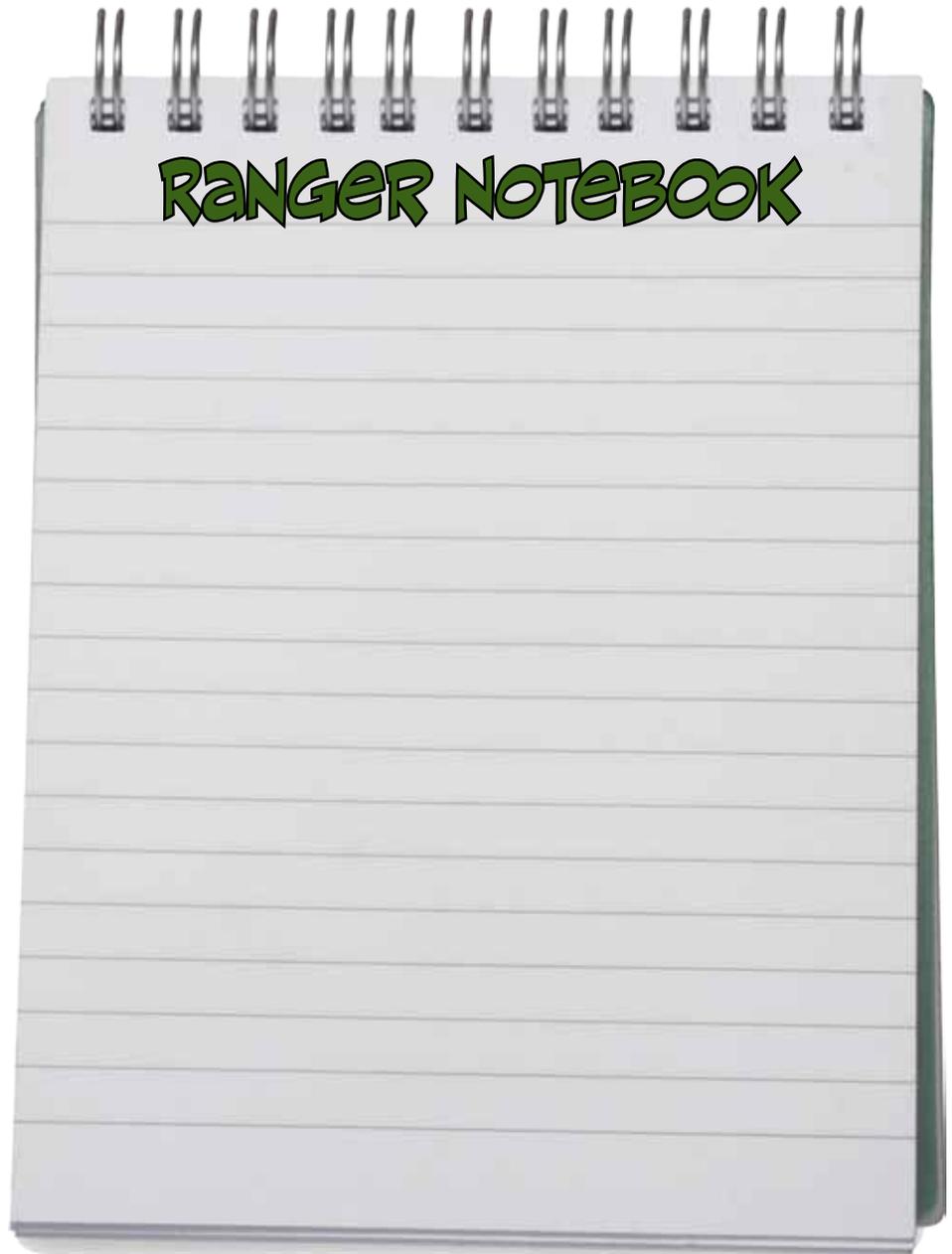
ilisaqtuq -learn

pakiktu -explore

natigna -tundra

tuvlagaa -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>

## BONUS ACTIVITY!

START YOUR OWN ORAL TRADITION WITH YOUR FAMILY.

MAKE SHORT VIDEOS OF SPECIAL EVENTS AND VACATIONS.



# SECTION 8: MORE FUN STUFF!

Being a Junior Ranger doesn't end when you leave the park or finish your Junior Ranger Book. You can be a Junior Ranger full time! You can do this by continuing to learn more about the natural and cultural history of your family, community or other natural areas and then sharing your knowledge with your friends and family.

Directions: Make a Junior Ranger Kit out of an old shoebox, lunch box, reusable cloth bag or whatever you have that you can recycle and use again. Your kit can have a lot of different things in it, but here are some basics:

**VIEW FINDER -** Use an old toilet paper roll and decorate the outside of it with stickers pictures or drawings of wildlife. The tube gets you to focus on a smaller area when you are looking around for wildlife helping you to catch things you might not have seen.

**A NOTEBOOK -** Use scrap paper to make a notebook. Make a cover of old cardboard to protect your field note, drawings and photos. Design a title and image for your cover.

**WILDLIFE ID CARD-** Make ID cards for the five most common plants and animals in your area. You can share these with friends and family to teach them about the plants and animals you know.

**CLIPBOARD-** You can make your own. Cut a piece of cardboard so it is 9 inches by 12 inches. Then get a large rubber band and put it around the middle. The cardboard gives you a flat surface to write on and the rubber band will hold your paper in place. Ask your parents for help cutting the cardboard

You might also want to have a ruler, bug boxes, a hand lens, colored pencils, field guides, map, water, lunch and a camera and other items to help you explore.

**NEVER GO OUT EXPLORING WITHOUT GETTING PERMISSION FROM YOUR PARENTS FIRST!**

**DID YOU KNOW YOU CAN BECOME A WEB RANGER TOO? YOU CAN PLAY GAMES AND LEARN ABOUT NATIONAL PARKS AT [WWW.NPS.GOV/WEBRANGERS](http://WWW.NPS.GOV/WEBRANGERS)**



# ACTIVITY 17: COMPARE & CONTRAST

Every country, every state, every city, town, village you visit there is at least a little something different. It could be the weather, the types of houses people live in, the length of the school year, or the wildlife you would find there.

**DIRECTIONS:** Answer the questions below compare where you live to Nome, AK. Bering Land Bridge National Preserve's Visitor Center is in Nome and so are most of the park rangers! You can look up some of the answers online. **ALWAYS ASK YOUR PARENTS PERMISSION BEFORE YOU GO ONLINE!**

Nome, Alaska \_\_\_\_\_ Where do you live? \_\_\_\_\_

Today's high Temperature \_\_\_\_\_ Today's high Temperature \_\_\_\_\_

What was the weather like? \_\_\_\_\_ What was the weather like? \_\_\_\_\_

Does Nome have tundra? \_\_\_\_\_ Does your town have tundra? \_\_\_\_\_

List three common plants \_\_\_\_\_ List three common plants \_\_\_\_\_

Nome is on what ocean? \_\_\_\_\_ Do you live near the ocean? \_\_\_\_\_

Does it Snow in Nome? \_\_\_\_\_ Does it snow where you live? \_\_\_\_\_

How many hours of daylight today? \_\_\_\_\_ How many hours of daylight today? \_\_\_\_\_

Do oceans, lake and rivers freeze in winter? \_\_\_\_\_ Do oceans lakes and rivers freeze in winter? \_\_\_\_\_

How is Nome, AK most like the town where you live? \_\_\_\_\_

The town of Nome, AK from an airplane, the Bering Sea or Pacific Ocean is to the right.

**THE RECORD HIGH TEMPERATURE IN AK IS 100F AT FORT YUKON IN 1915. THE RECORD LOW IS -80F AT PROSPECT CREEK IN 1971.**



# ACTIVITY 18: THAT'S HILARIOUS, BUT TRUE

Posters, brochures, television ads all are ways we can share conservation messages. Another way you can do that is to create a comic that has a moral or lesson it is teaching. It could be about littering, wildlife safety, recycling or anything you choose.

**DIRECTIONS:** Create a conservation super hero and do a comic strip for them. Make sure the comic strip has a lesson to teach about conservation. Use the boxes below to develop your comic strip or make a new one on a separate piece of paper and paste it into your book.

Look for a couple of Ranger Mason comics coming to [www.nps.gov/bela/forkids](http://www.nps.gov/bela/forkids)




**A LOT OF PEOPLE USE HUMOR TO SHARE IMPORTANT INFORMATION WITH OTHERS. HUMOR CAN GET PEOPLES ATTENTION AND MAKE THEM CARE ABOUT YOUR STORY.**

# DO YOUR PLANT RUBBING HERE

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# TAKE THE JUNIOR RANGER PLEDGE BELOW:

"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."

