The Tundra

VOCABULARY

tundra - a region of land at the far northern part of the world

pingos - small hills made up of frozen soil

permafrost - the soil that is frozen year round below the surface of the land

aurora borealis - bands of light that appear in the northern sky, the Northern Lights

THE LAND

- The land in the tundra is flat and covered with cracks.
- There are small hills of frozen soil called pings. They are covered with ice.
- The soil below the surface is frozen year round. It is called permafrost.
- In the winter the surface soil freezes. But in summer, the ice on the surface melts and the permafrost is covered with mud.

SEASONS IN THE TUNDRA

- Winter lasts for about 9 months in the tundra. Everything is covered with ice and snow.
- During the months of November, December, and January there is no sunlight.
• But sometimes the northern sky glows with bands of light called the **aurora borealis**.

• From May until July the sun shines **24** hours a day. During these months the tundra is called the land of the **midnight sun**.

**WEATHER**

• There is very little **rain** or **snow** in the tundra.

• In the summer, it is very **wet** because of all of the melting ice. Many **lakes** and **ponds** form on the surface of the land.
Where is the tundra?

VOCABULARY

lines of latitude - *lines that measure distances north and south of the equator*

tree line - *an edge that separates treeless land from where trees can grow*

WHERE IS THE TUNDRA?

• The tundra is found in the **high** latitudes between 60° and 90° N of the **equator**.
• The tundra region always receives *slanted* rays of sun. It is **cool** year round.
• The tundra region surrounds the **Arctic** Ocean.
• The three continents that have tundra regions are:
  1. **North America**
  2. **Europe**
  3. **Asia**
• The coast of **Greenland** is also part of the tundra.
• There are no **trees** on the tundra.
• The tundra is found between the **Arctic** Ocean and the **tree line**.
• The tundra covers parts of these countries:
  - **Norway**
  - **Sweden**
  - **United States**
  **Canada** **Russia**
  - **Canada** **Russia**
  **The largest parts of the tundra are found here.**
Internet Research — Tundra

Go to Mrs. Bellen’s Web Page and click on “Missouri Botanical Gardens”.
Use the MBG Learning Network to complete the notes below.

• Click on the glacier below the title “Tundra”

• Click on “Where is the Tundra Located?” (scroll down the page)

1. There are two types of tundra in the world. The tundra at the top of the world around the North Pole is called the Arctic tundra, and the one found on the tops of tall, cold mountains is the Alpine tundra.

2. The most distinctive characteristic of the tundra soil is its permafrost which is a permanently frozen layer of ground. During the brief summers, the top section of the soil may thaw out allowing plants to grow and reproduce. However, these plants rest during the winter months.

• Click on “Tundra Facts”

3. Temperatures during the arctic winter can dip to -60°F! Average temperature of the warmest month is between 50°F and 32°F. Sometimes as few as 55 days per year have an average temperature higher than 32 degrees F (freezing).

• Click on “Tundra Plants”

4. Read about some of the types of plants that grow on the tundra. Choose 2 of the plants to write an interesting fact about. * STUDENT CHOICE -- ANSWERS WILL VARY *

• Click on “Tundra Animals”

5. Choose 3 animals that live on the tundra. Write an interesting fact about each one. * STUDENT CHOICE -- ANSWERS WILL VARY *

* STUDENT CHOICE -- ANSWERS WILL VARY *
Tundra Animals

LARGE TUNDRA ANIMALS

• Most Arctic animals live on the tundra only during the summer. During the winter, animals find shelter in the forests or underground.

• Choose 3 large tundra animals and write an interesting fact about each one.

  * STUDENT CHOICE -- ANSWERS WILL VARY *

  1. 
  2. 
  3. 

SMALL TUNDRA ANIMALS

• There are many small animals on the tundra throughout the year. Some stay above the snow surface during the winter, and some hide in burrows under the snow.

• Choose 3 small tundra animals and write an interesting fact about each one.

  * STUDENT CHOICE -- ANSWERS WILL VARY *

  1. 
  2. 
  3. 
ARCTIC BIRDS
• Over 100 different species of birds live in the Arctic. Most only live there during the summer.

• Choose 3 arctic birds and write an interesting fact about each one.

  * STUDENT CHOICE -- ANSWERS WILL VARY *

1. 

2. 

3. 

SEA BIRDS
• Millions of sea birds migrate to the tundra each summer.

• Choose 3 sea birds and write an interesting fact about each one.

  * STUDENT CHOICE -- ANSWERS WILL VARY *

1. 

2. 

3. 
OCEAN LIFE

- Arctic sea **temperatures** range from about -40° F in winter to just above freezing by the end of the summer.
- Arctic sea animals have a layer of fat called **blubber** to keep them warm.
- The surface of the sea is frozen. However, sunlight filters through about 6.5 feet of ice and a layer of greenish brown **algae** grows. Many sea creatures depend on these small plants for food. It is the beginning of the food **chain**.

- Choose 3 ocean animals and write an interesting fact about each one.
  
  * STUDENT CHOICE -- ANSWERS WILL VARY *
  
  1. 
  2. 
  3. 

POLAR BEARS

- **Nanuk** is the Inuit name for the polar bear.
- The polar bear is one of the largest land **carnivores** in the world. They have large **teeth** and **claws** as sharp as a tiger’s.
- They can run up to 35 miles per hour at short distances and are excellent swimmers.
- Their main prey is the ringed seal. They often wait by a breathing hole until the seal comes up for air.
- Polar bears will eat just about anything — including tents, boots, and even humans!
- The best way to scare away a polar bear is to use flares or firecrackers. It is best to try to avoid them altogether.
TUNDRA PLANTS

VOCABULARY
lichen - a plant without flowers that grows on the tundra from June through August

PLANTS IN THE TUNDRA
• There are no trees in the tundra because they require at least one month of warm weather each year to live. The temperature must be above 50 °F.
• The land is bare for much of the year. From June to August, green moss and colored flowers grown in bunches that cover much of the ground.
• A plant without flowers, called lichen, grows on the rocks and soil. This supplies food for reindeer and other animals that live on the tundra.
• The tundra is a grassland. It is sometimes called the “Arctic Prairie.”
The Tundra Region in the United States

- The only state in the U.S. to have a tundra region is **Alaska**.
- The northern coast of Alaska touches the **Arctic** Ocean. The western coast touches the **Bering** Sea.
- The parts of Alaska that are between these **coasts** and the **tree** line are the tundra.
- **Alaska** is the largest state in the U.S. Not all of Alaska is tundra. Some parts are **forests** and **farmland**.
- The Alaskan tundra is a land rich in **natural resources**, like oil. Oil is pumped through the Alaskan **Pipeline** south to the rest of the U.S.

**MAP OF ALASKA’S TUNDRA REGIONS**

![Map of Alaska's tundra regions](image)
THE ESKIMO

VOCABULARY

harpoon - a long spear used to catch fish, seals, and whales

igloo - a house made of blocks of snow

Inuit - Eskimo people who live from northwestern Alaska, across Canada, into Greenland

kayak - a small boat, for 1-2 people, made of skins stretched over a wooden frame

parka - a fur jacket with a hood

umiak - a large boat, for 10 or more people, made of skins stretched over a wooden frame

Yupik - Eskimo people who live on the western and southwestern coasts of Alaska

PEOPLE OF THE FAR NORTH

• The 2 groups of Eskimos are
  1. Inuit
  2. Yupik

• These people live on the land that stretches from Russia to Greenland, across Alaska and Canada.

• The Inuit and Yupik people live in one of the coldest regions of the world.
HUNTING FROM SEASON TO SEASON

- To survive in the cold climate Inuit and Yupiks learned to live as the animals lived. They dressed in animal skins and followed the animals from season to season.
- They learned to trap, hunt, and gather everything that could be eaten or used.
- Animals that were hunted or caught by the Eskimo included:
  - seals, caribou, salmon, walrus,
  - whales, sea birds, char, trout
- In the past the Eskimo got most of what they needed from the animals they hunted. They would eat the meat and make clothing, tents, boats, and tools from the skin and bones. They would use the oil from the animals for heat, light, and fuel.

CROSSING LAND AND SEA

- Inuit and Yupiks traveled year-round to find food. To make their travel easier, they built boats and dogsleds.
- In the summer, dogs carried backpacks. In the winter and spring, they pulled sleds.
- Sleds were made of bone or wooden slats sometimes tied together with animal skin.
- A dog team is made up of 4 - 12 huskies. The lead dog listens for directions and then leads the other dogs.
- In the spring and summer, boats were an important means of travel.
- The two types of boats used were:
  1) kayaks   2) umiaks
• Kayaks carried 1 - 2 people. They were made by covering a wooden frame with seal or caribou skin.

• Umiaks were large, open boats that could hold more than 10 people. It was made of bearded seal or walrus skin stretched and sewn together over a wooden frame. It was used for long trips or to hunt large sea animals.

SUMMER AND WINTER HOMES

• Inuits and Yupiks usually did not build permanent homes, except those that lived in Alaska.

• During the summer, some people lived in tents. They were made by sewing seal or caribou skins together. Then, the skins were stretched over driftwood or animal bones.

• In the winter, the families built sod houses or igloos.

• Sod houses were made of soil and were built partly underground.

• Igloos were made of hard-packed snow. A lamp carved from soapstone was placed in the center of the igloo for warmth and light.

• Sometimes igloos were joined together with underground tunnels to avoid going outdoors.

KEEPING WARM

• Eskimos made most of their clothing from caribou skins.

• They also used skins from seals, polar bears, squirrels, and arctic foxes.

• They wore a hooded jacket called a parka. They also wore pants, socks, mittens, and boots.
• They even made skin **boots** for their **dogs** to wear to protect their feet.
• In the summer, people usually wore only a **rainproof** suit made of seal **intestines**.
• The **women** made and repaired all of the clothing. They would even **chew** their husband’s boots to soften the animal hide.

**ART & STORYTELLING**
• Inuit and Yupik families spend most of the **winter** inside their homes.
• During this time, they made things they would need for **hunting** and **cooking**. They played **games** and told stories called **legends**.
• Some people made beautiful **carvings** of animals they hunted. Most of the carvings were made out of **soapstone**, in Canada. In Alaska they used **bone** and **ivory**.
TUNDRA STUDY GUIDE

VOCABULARY:

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FROM YOUR NOTES:

✓ What the tundra looks like
✓ What the weather is like on the tundra
✓ Where the tundra is located (continents and countries)
✓ Examples of tundra animals
✓ Examples of tundra plants
✓ Eskimos
  - 2 groups
  - where they live
  - how they survive
  - art
  - ways of transportation
  - homes
  - clothes
  - storytelling