



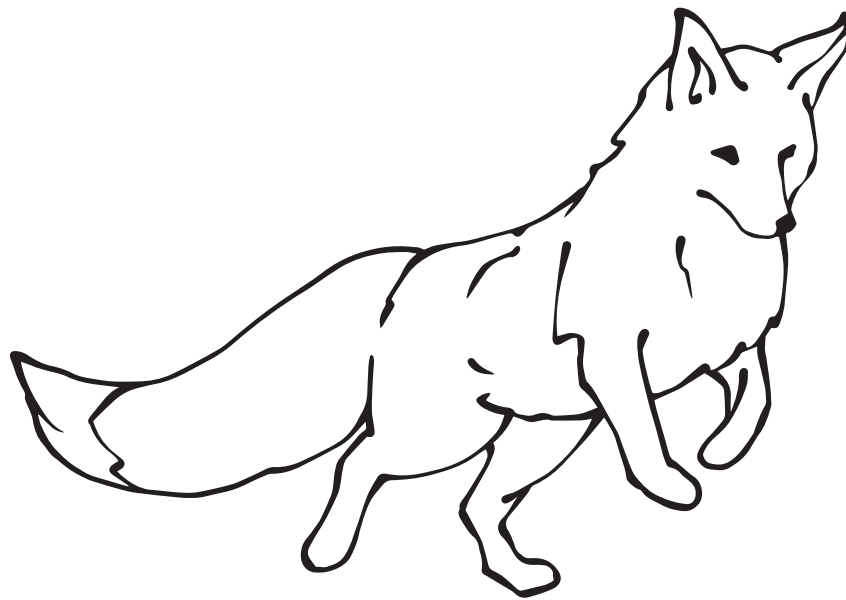
LAPLAND

notebook

junior

NAME





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POLAR REGIONS STUDY

LAPLAND, FINLAND

WHAT ARE THE POLAR REGIONS?

The polar regions are the coldest places on Earth! These icy areas are found near the top and bottom of the planet. The Arctic is in the north, while Antarctica is in the south. The Arctic is home to snowy landscapes, frozen oceans, and incredible animals like polar bears, Arctic foxes, and seals.

WHAT IS LAPLAND?

Lapland is a special area in the Arctic region, located primarily in Finland, but also in Sweden, Norway and Russia. It is known for its beautiful snowy forests, the magical Northern Lights, and its reindeer herds. In Lapland, winter lasts for many months, and the sun doesn't rise for weeks during the Polar Night. People, like the Sami, who live in Lapland have learned to adapt to the freezing weather, making it their home for thousands of years.



FUN FACTS LAPLAND, FINLAND



It's BIG!

Lapland is the largest region in Finland, covering an area bigger than many small countries! It's full of snowy forests, frozen lakes, and mountains called fells.

Home of the Northern Lights

Lapland is one of the best places in the world to see the magical Northern Lights, also called Aurora Borealis. The lights appear on clear nights when particles from the sun hit Earth's atmosphere, creating beautiful colors in the sky.

Land of the Sami People

The Sami are the Indigenous people of Lapland. They have lived here for thousands of years, herding reindeer and creating colorful clothing and beautiful crafts.

Santa's Official Home

Many people believe Santa Claus lives in Lapland! Visitors come from all over the world to see Santa's village, ride reindeer sleighs, and enjoy the snowy wonderland.

Extreme Days and Nights

In Lapland, winter days are so short that the sun doesn't rise for weeks during the Polar Night! But in summer, the Midnight Sun keeps the sky bright for months.

FUN FACTS

ANIMALS IN LAPLAND

Reindeer: Reindeer are amazing runners and swimmers! They can run up to 50 miles per hour and use their wide hooves like paddles to swim across rivers.



Snowy Owls: Snowy owls are mostly white, helping them blend into the snow to stay hidden. They have excellent eyesight and hearing to catch prey, even under the snow!



Ringed Seals: Ringed seals can hold their breath underwater for up to 45 minutes! They use their sharp claws to make breathing holes in the ice.

Arctic Foxes: Arctic foxes have thick fur that changes color with the seasons—white in winter and brown in summer. Their small ears and fluffy tails help keep them warm in freezing temperatures.



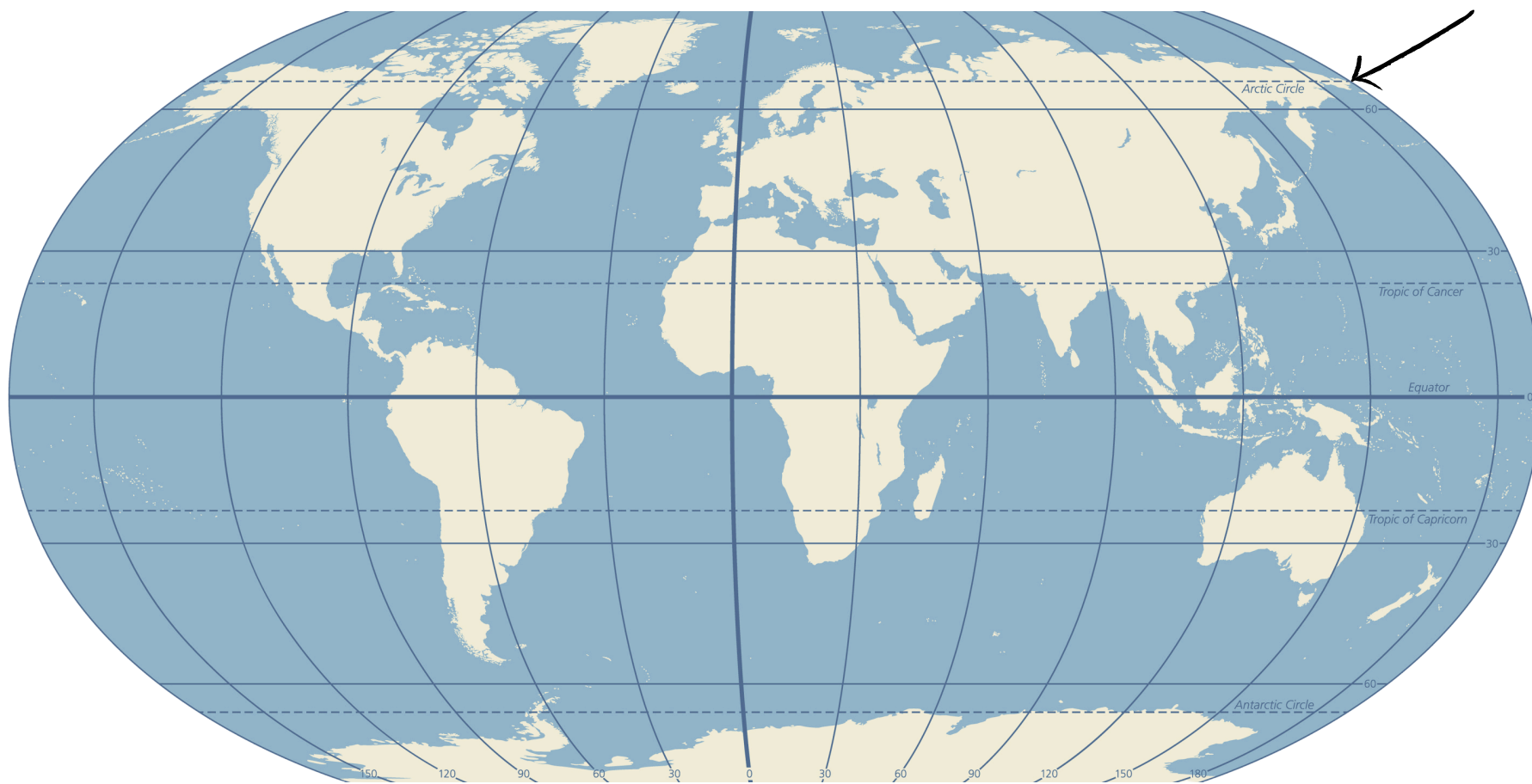
Wolverines: Wolverines are small but super strong! These fierce animals can hunt animals much larger than themselves and even eat frozen meat in winter.

Ptarmigan: Ptarmigans are birds that grow feathers on their feet to walk on snow! They also change color, turning white in winter to blend in with the snowy landscape.



MAP LAPLAND

1. **Finding the Arctic Circle:** The Arctic Circle is an imaginary line around the northern part of the Earth, marking the start of the Arctic region.
2. Draw a **THICK BLUE line** along the Arctic Circle on the map below.
3. **Find Lapland:** Use a map, globe, or atlas to help you locate and circle Lapland in northern Finland on the map below.
4. **Locate Your Home:** Mark your home on the map with an **X** to see how far it is from Lapland.



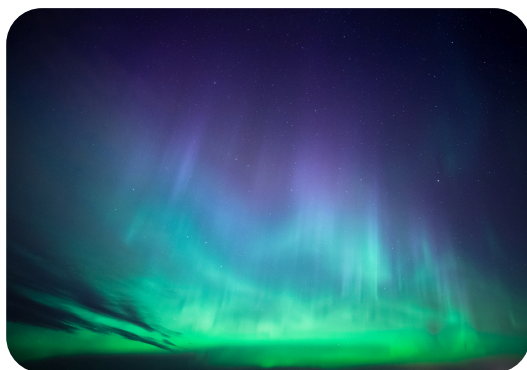
MY POLAR REGIONS K-W-L CHART

Draw pictures or write words to share what you **K**now and what you **W**onder about Lapland and Polar Regions. Later, come back and share something you **L**earned.

K NOW

W ONDER

L EARNED





THE NORTHERN LIGHTS

What You'll Be Doing: Draw and describe the Northern Lights.

A large, empty rectangular box with a thin black border, intended for a student to draw the Northern Lights.

Circle the words that describe the Northern Lights:

BRIGHT

COLORFUL

QUIET

LOUD

SLOW

FAST



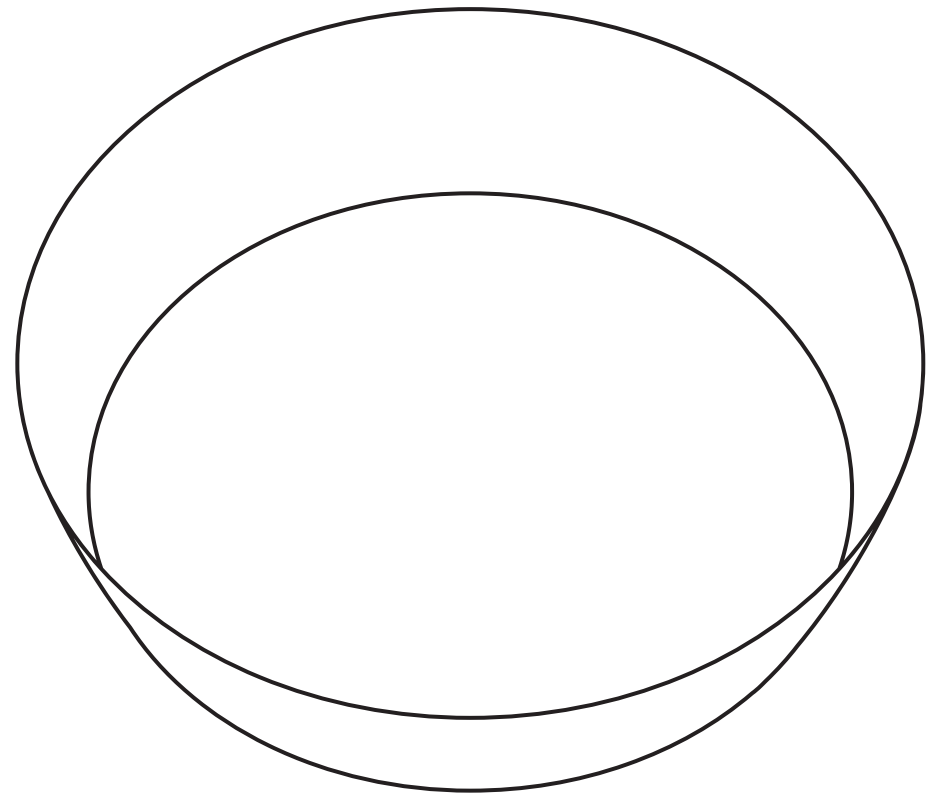
DANCING LIGHTS IN THE SKY

Today, you made your own magical Northern Lights with milk and colors! Draw and write about what you saw.

What Did You See?

1. What colors did you use?
(Write the colors below)

2. How did the colors move?

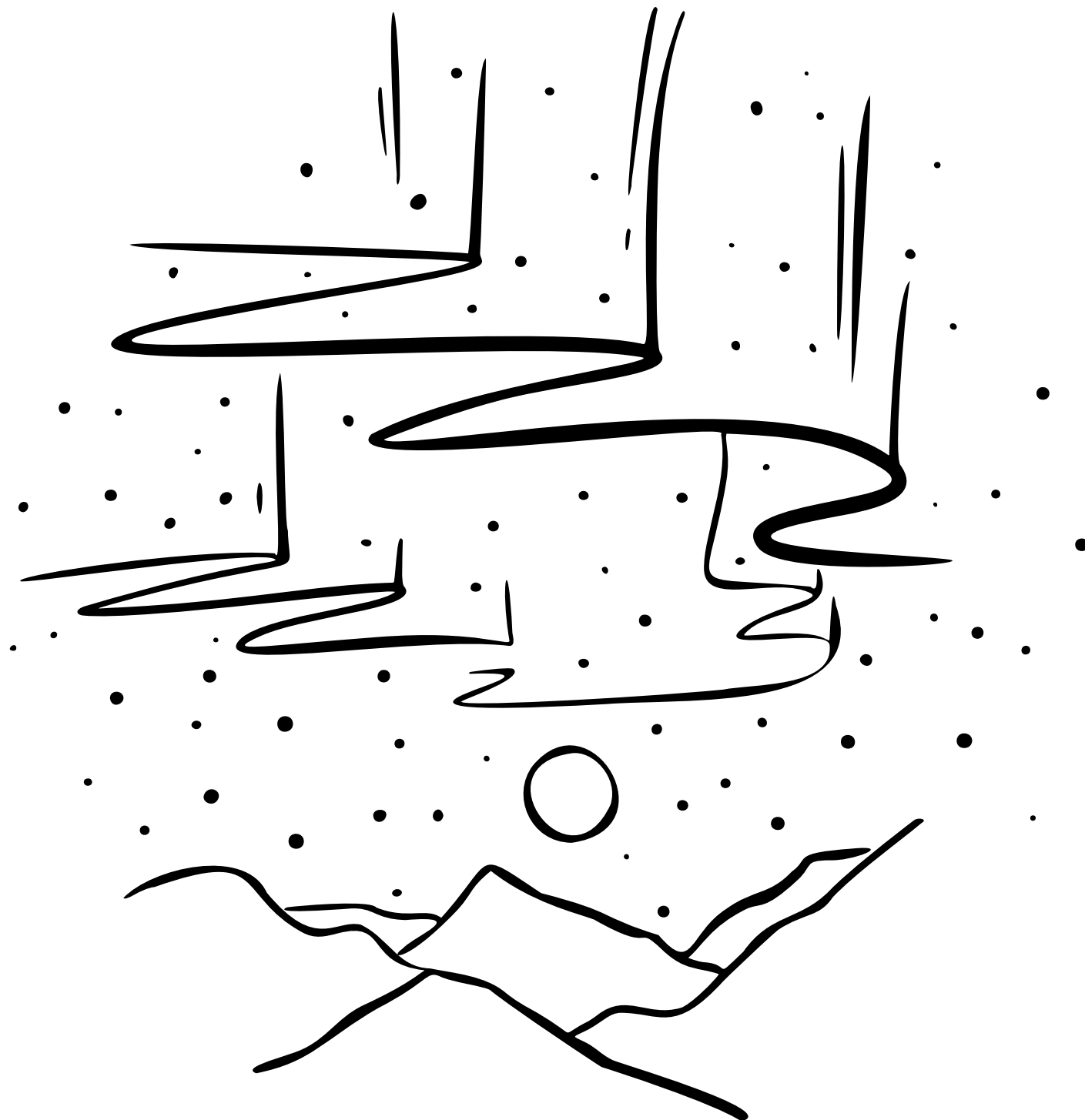


Let's Think!

1. Why do you think the colors moved when you added the soap?

I think the colors moved because....

Color Me!





BECOME A SNOW SCIENTIST!

You are now an official snow scientist!

Your task is to study snowflakes up close and record every tiny detail. Snowflakes may look simple, but each one is special.

What You'll Need:

- A frozen piece of black construction paper or dark fabric
- A magnifying glass or pocket microscope
- A notebook or journal
- Pencil or markers for notes and sketches
- If you do not have access to real snow- study the pictures provided!

Instructions:

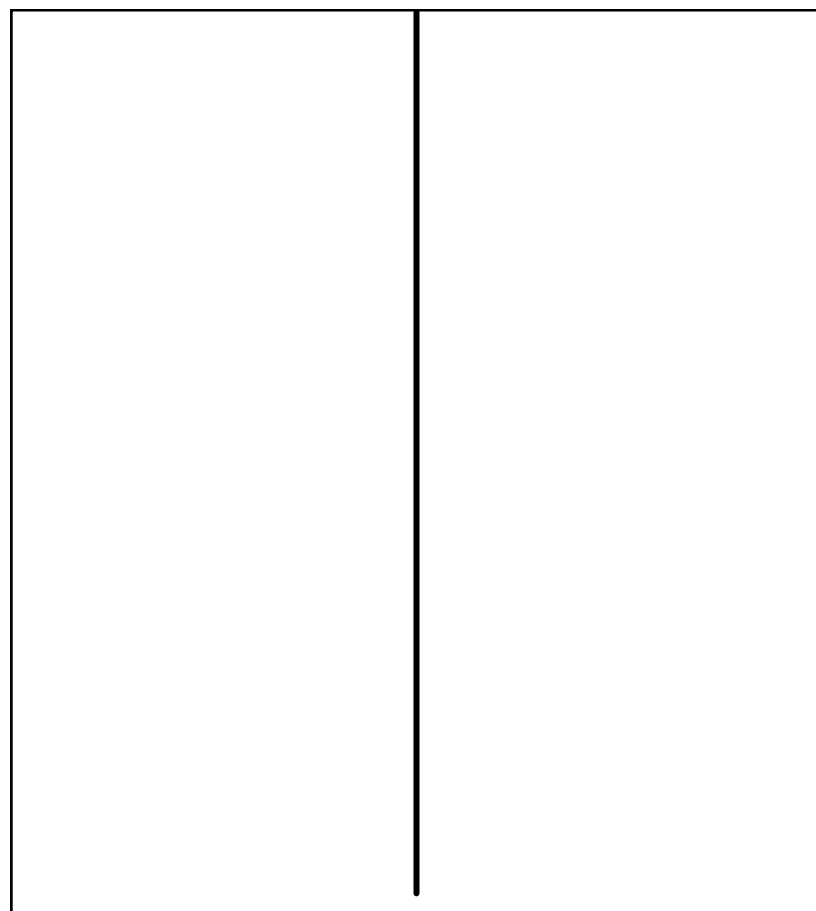
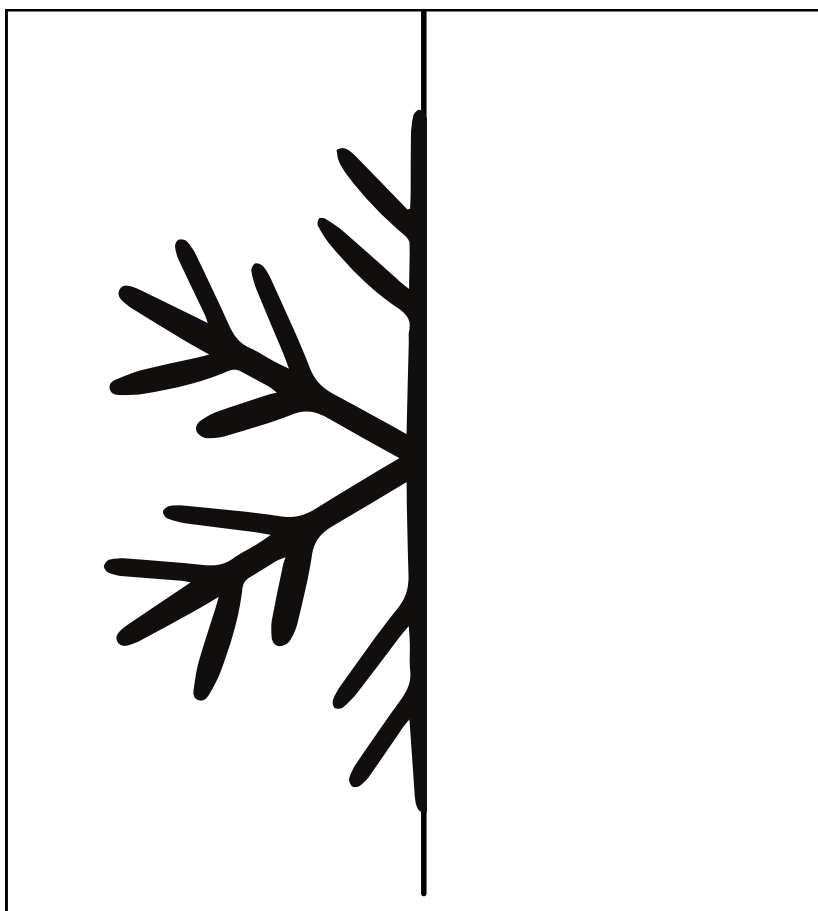
1. **Prepare Your Tools:** Freeze the black construction paper or fabric for at least two hours before heading outside. This will stop the snowflakes from melting when they land.
2. **Catch a Snowflake:** Go outside when it's snowing and use the frozen paper to gently catch snowflakes. Hold it still and let the flakes land on it.
3. **Examine the Flakes:** Use a magnifying glass to look closely at the snowflakes. Notice their shapes, patterns, and details.





SNOWFLAKE SYMMETRY CHALLENGE

Snowflakes are special because they are perfectly symmetrical! In the first box, complete the other half of the snowflake by copying its design. In the second box, use your imagination to draw your very own symmetrical snowflake! Remember, both sides should match!





SNOWFLAKE INVESTIGATION

I caught a snowflake today! It looked like this:

Write and draw every detail you can about the snowflake. Be as specific and detailed as possible.

1. What shape is it? (Are they pointy, round, or spiky?)
2. How many sides or branches does it have?
3. Do you see any patterns or tiny details?





REINDEER VISION

What I Learned About Reindeer Eyes

Answer these questions with a grown-up or friend after learning about reindeer vision:

1. What happens to reindeer eyes when the seasons change? (Circle one)

- They stay the same
- They change color

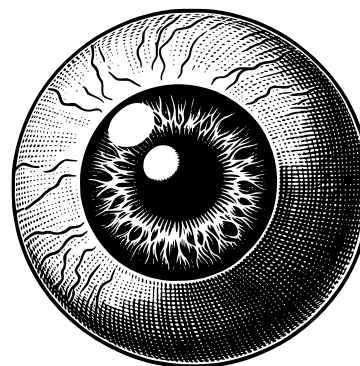
2. How does reindeer vision help them see in the snow? (Circle one)

- It helps them find food
- It doesn't help at all

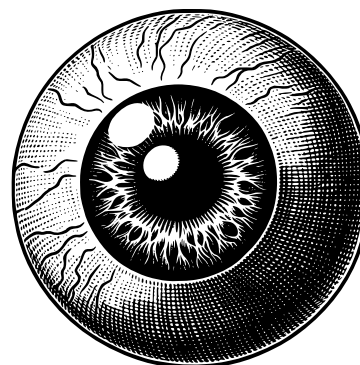
Color a Reindeer Eye!

Reindeer eyes change to help them see better during summer and winter. Use the circle below to color a reindeer eye!

COLOR IT BLUE FOR WINTER VISION.



COLOR IT GOLD FOR SUMMER VISION.





REINDEER VISION: EYE DILATION EXPERIMENT

Lesson

4

How Do Human Eyes Adapt to Light?

Human eyes don't have the amazing abilities of reindeer eyes, but they can still adjust to different levels of light. The black part of your eye, called the pupil, changes size to help you see.

This experiment will help you observe how your eyes adapt to light changes, just like reindeer adapt to see better during Arctic winters!

Observing Eye Dilation

In low light, my pupils were:

- ☐ Large (dilated)
- ☐ Small (constricted)

In bright light, my pupils were:

- ☐ Large (dilated)
- ☐ Small (constricted)





REFLECTIVE MATERIALS TEST

Light reflection helps us see objects in the dark. Reindeer rely on a special reflective layer in their eyes to see better in low light. In this experiment, you'll test different materials to find out which reflects light the best, just like the reflective part of a reindeer's eye!

Record Your Observations

Materials Tested:

Check the materials you tested and write down what you noticed!

- Aluminum foil: _____
- White paper: _____
- Black paper: _____
- Shiny plastic: _____
- Something else: _____





THE ARCTIC FOX ADAPTATIONS

Directions: Look at the diagram of the Arctic fox. Your job is to label the parts of the fox that help it survive in the cold Arctic tundra. Draw a line from each word to the body part on the arctic fox.

Here's what to label:

THICK FUR ●

COMPACT BODY SHAPE ●

SHORT EARS AND SNOUT ●

SEASONAL FUR COLOR CHANGE ●

BUSHY TAIL ●





FUR AND INSULATION TEST

Materials Tested

Write down the materials you will test.

- Material 1: _____
- Material 2: _____
- Material 3: _____



Material	Time Until Cold Felt (seconds)	Notes (e.g., soft, thin, thick)
1.		
2.		
3.		



RINGED SEAL ADAPTATIONS

Imagine you are designing a wetsuit inspired by a ringed seal's adaptations. What features would it have to keep humans warm, help them float, and allow them to dive deep like a seal? Write or draw your design below!





BLUBBER GLOVE EXPERIMENT

Materials You Used:

Write down what you used for the experiment:

Observations:

Which hand felt warmer in the ice water?

- ☐ Blubber glove hand
- ☐ Plain glove hand

Describe how your hands felt:

Blubber glove: _____

Plain glove: _____





MEET THE SAMI PEOPLE

Lesson
7





MEET THE SAMI PEOPLE

Lesson

7

Fill in the blanks with the words below.

reindeer

clothes

Lapland

nature

homes

The Sami people live in _____, a snowy place in the Arctic.

They take care of _____, which give them food, clothes, and help with travel.

The Sami wear colorful _____ called gákti and sing special songs called joik.

They build _____ that can be moved as they follow the reindeer.

They live closely with _____ and animals.





PERMAFROST MODEL

In this activity, you will create a model of Arctic permafrost to learn why reindeer migrate. By exploring how frozen soil affects plant growth, you'll discover why reindeer can't stay in one place to graze.

Draw your Permafrost Model.

Questions

1. What did the permafrost feel like when you removed it from the freezer?
2. What happened when you tried to push the roots (string, pipe cleaners, or twigs) into the frozen layer?



SANTA'S MAGICAL CONNECTION TO LAPLAND

Lesson
8

Write two ways that Lapland celebrates Christmas:

-
-

What do tourists like to do when they travel to Lapland?

-
-





SANTA-INSPIRED TOURISM EXPERIENCE

Draw a picture of yourself having snowy fun in Lapland!



WHY DOESN'T AN IGLOO FALL DOWN?

Strong Dome Shape

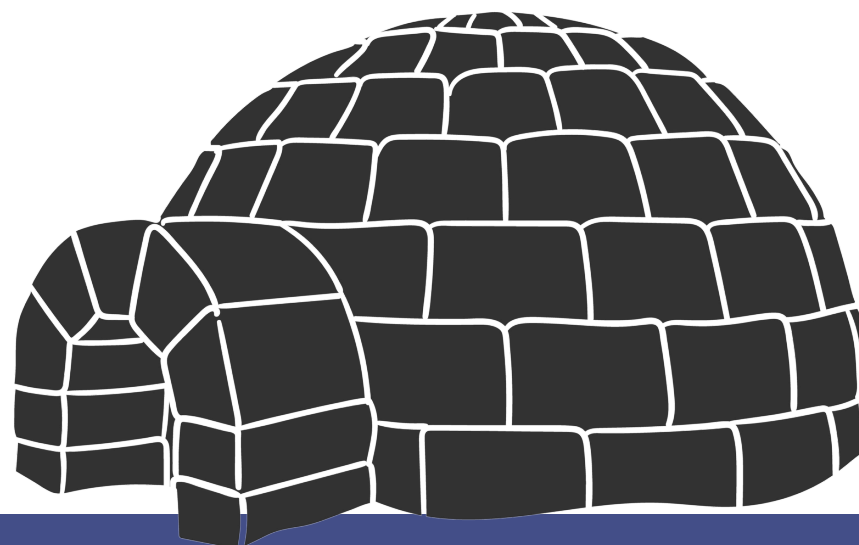
The round shape of an igloo spreads out weight evenly. This keeps it from falling down, even in heavy snow!

Snow is Strong

Snow may seem soft, but packed snow is strong. It has tiny air pockets that keep it warm and make it sturdy.

Small Tunnel Entrance

The small entrance keeps the cold wind out and traps warm air inside, helping the igloo stay strong and cozy.





WHAT MAKES A LAVVU SO STRONG?



Cone Shape

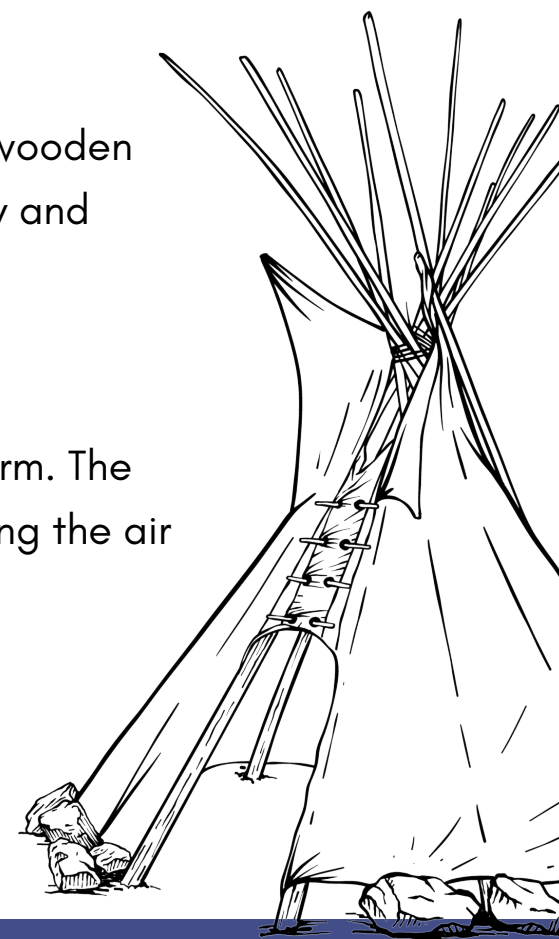
The cone shape helps the lavvu stand strong in windy weather. Wind moves around it instead of knocking it over.

Easy to Move

A lavvu is light and easy to move. The wooden poles hold it up evenly, making it sturdy and portable.

Fire and Ventilation

A fire in the middle keeps the lavvu warm. The smoke goes out through the top, keeping the air inside fresh.





BUILD AN ARCTIC SHELTER

DESIGN AND BUILD

Draw your shelter design.

WIND TEST:

Use a fan or blow gently. Did your structure stay upright?

YES

☐

NO

☐

DURABILITY CHECK:

Gently shake or move the base. Did it stay together?

YES

☐

NO

☐

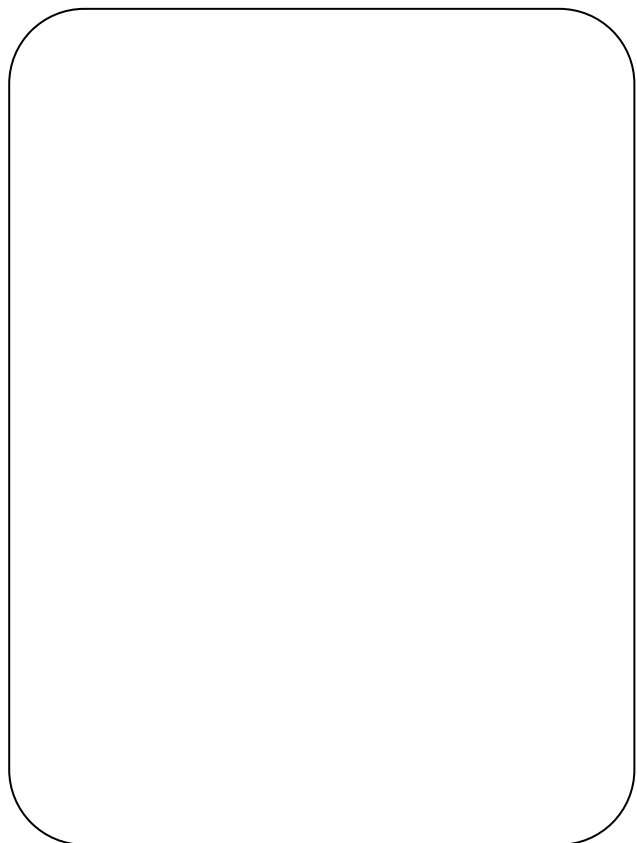
Lavvu Check: If you built a lavvu, can you take it down and rebuild quickly?

MY ARCTIC CREATURE FEATURE

Animal: _____

This animal is a: ☐ Amphibian ☐ Bird ☐ Fish ☐ Insect ☐ Mammal ☐ Reptile

Here is a picture of my animal:




size: _____

color: _____

what it eats: _____

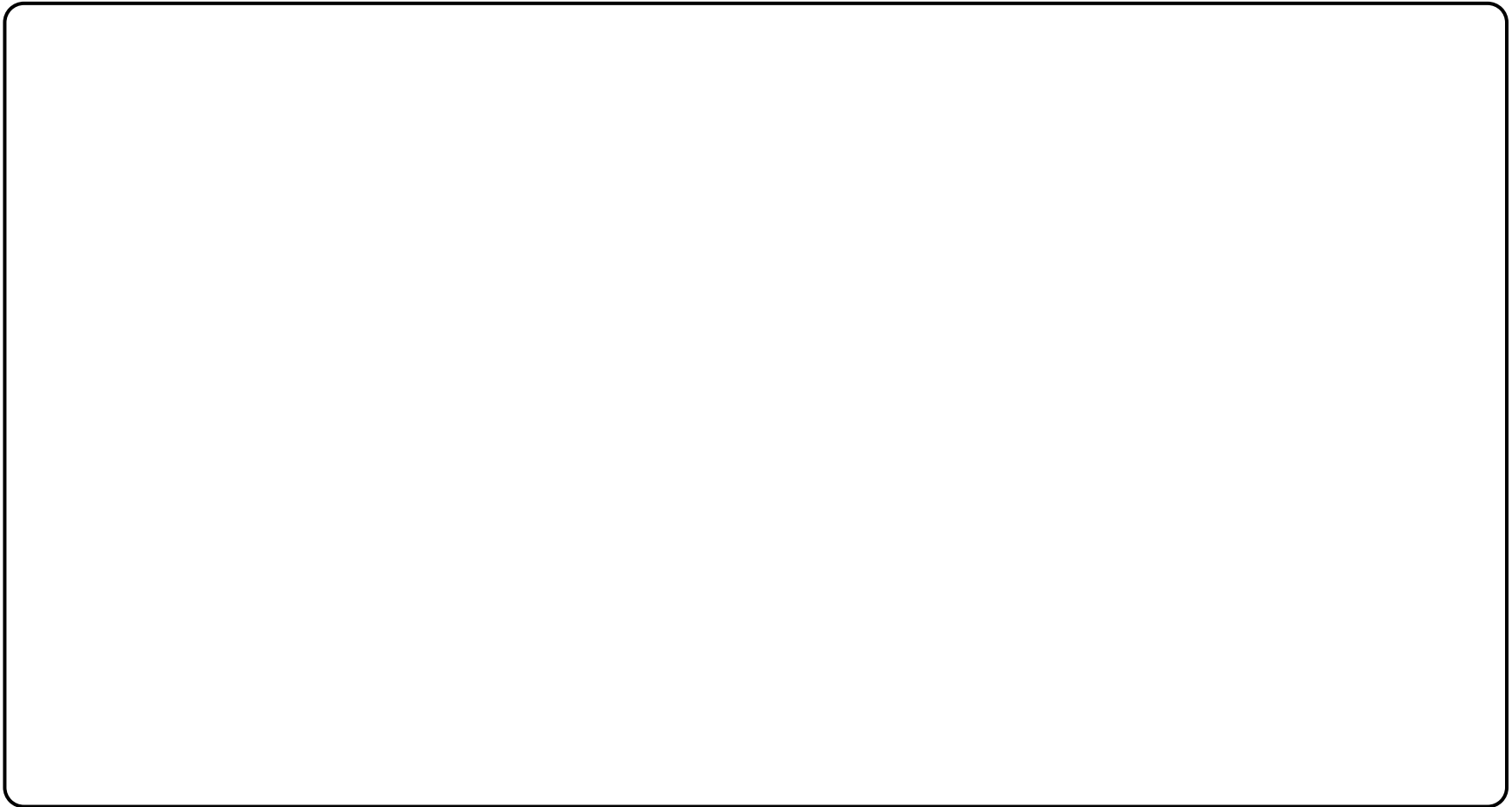
predators: _____

Two interesting facts about my animal:



MY ARCTIC CREATURE FEATURE

Draw your animal in it's habitat



Write one special way your animal has adapted to survive in this habitat.

MYSTERY ANIMAL SKETCH PARTY

Instructions:

1. Read the clues carefully and try to guess what the animal is based on the descriptions.
2. Once you have your guess, start sketching your best version of the mystery animal. Use your imagination and creativity to bring it to life on your paper!

This animal has thick, white fur to blend into the snowy tundra. It has sharp teeth and claws to catch seals and is known as a powerful swimmer.



I'm thinking of an animal that has antlers and hooves. It migrates across the tundra in large herds and eats mosses and lichens.



This animal lives in the icy Arctic waters and has a thick layer of blubber to stay warm. It loves to bask on icebergs and makes loud barking sounds.



This small Arctic animal has white fur that helps it hide in the snow. It has a bushy tail and eats lemmings, birds, and eggs. It's known for being quick and clever.



Creatures of the Arctic



Arctic fox



Snowy owl



Reindeer



Ringed seal



Polar Bear

Creatures of the Arctic



Orca



Musk Ox



Wolverine



Narwhal



Mountain hare

A B C HUNT

an Alphabet Polar Creature Scavenger Hunt

Find a polar region creature that begins with each letter of the alphabet. Write it down below. Use your favourite animal books to help you.

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

W

X

Y

Z

BONUS LESSONS

The Polar Night

Snowy Owls: Silent Flight

Navigating the Arctic

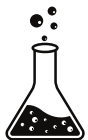


THE POLAR NIGHT JOURNAL ENTRY

Write a few sentences about how you would feel living in darkness for weeks. What would you miss about the sunshine? What do you think you would like about the long, dark Polar Night? Try writing it as an entry in a journal. Pretend you are there right now! What would you write?



POLAR NIGHT SCENE SKETCH



THE POLAR NIGHT

In this activity, you will complete a task in low light, just like animals and people do during the Arctic's Polar Night. After that, you will search for hidden items using a flashlight or lantern. Write down what you did and what you noticed!

Challenge 1: Arctic Tasks

What was your task?

Was it harder to do in the dark? Why?

What helped you the most?

Challenge 2: Polar Night Search

What items did you find?

Where were they hidden?

What made searching tricky?



SNOWY OWL FEATHERS

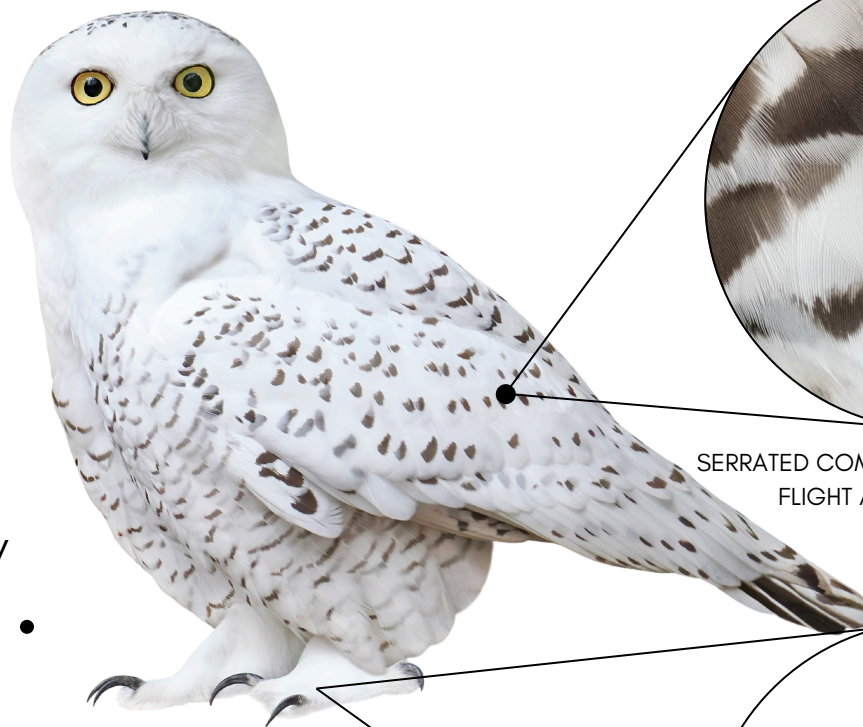


SERRATED, COMB-LIKE FEATHERS:

Snowy owls have special feathers with tiny, comb-like edges. These edges help break up the air as they fly, making their flight very quiet. This helps them sneak up on their prey without being heard.

SOFT, VELVETY FEATHERS:

Snowy owls are covered in soft feathers, even on their wings and legs. These feathers keep them warm in the freezing Arctic and also help make their flight even quieter.



SERRATED COMB-LIKE FEATHERS STABILIZE FLIGHT AND REDUCE SOUND



SOFT, VELVETY FEATHERS ON WINGS AND LEGS ABSORB SOUND FREQUENCIES



SNOWY OWL ADAPTATIONS



NAVIGATING BY THE SUN

Today, you'll learn how to find directions (North, South, East, and West) by using the sun. The sun rises in the East and sets in the West, and knowing this can help you figure out which way you're facing!

This method works well for most places. But in the Arctic, people can't always use the sun to navigate because, during parts of the year, the sun doesn't rise (Polar Night) or doesn't set (Midnight Sun). That's why Arctic explorers and the Sami people often rely on other tools like compasses, landmarks, and the stars. For where you are, though, using the sun is an easy and fun way to find your way! Let's get started!

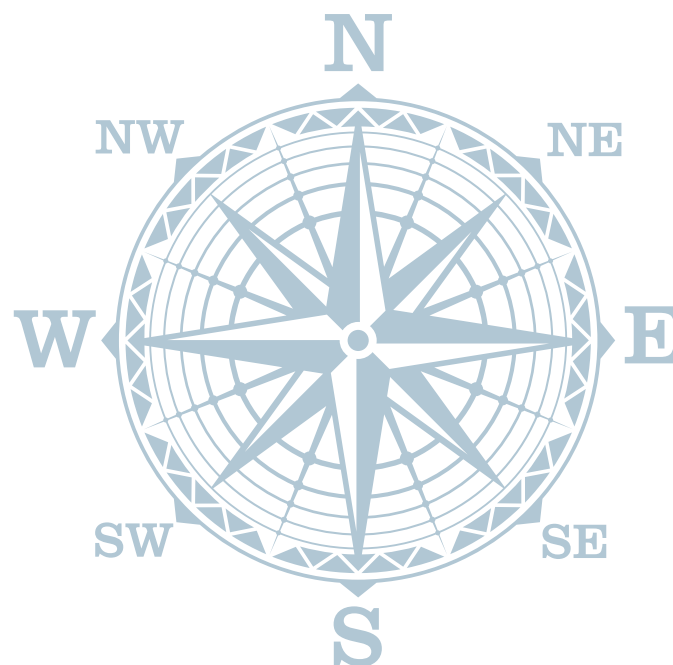
ACTIVITY 1: FINDING DIRECTIONS WITH THE SUN

Where Does the Sun Rise and Set?

1. The sun rises in the East (in the morning).
2. The sun sets in the West (in the evening).

How to Find North and South:

1. Face the Sunrise The direction where the sun rises in the morning is East.
2. Stretch your right arm out to the side—that's South.
3. Stretch your left arm out to the side—that's North.
4. Behind you is West (where the sun sets).





NATURE'S GUIDE: FINDING DIRECTIONS OUTSIDE

Did you know you can use nature to figure out which way to go? Even without a map or compass, the world around you has clues to help you find directions. Let's learn some fun ways to tell North, South, East, and West!

1. THE SUN

The sun rises in the East and sets in the West. If you face the sunrise, East is in front of you, West is behind you, North is to your left, and South is to your right.

2. MOSS ON TREES

Moss loves shade and damp spots, so it often grows on the North side of trees. Look at the tree trunks and see where the moss is growing to find North.

3. THE STARS

At night, you can use the stars to find your way—if you know where to look!

- In the Northern Hemisphere: You can find the North Star, which always points North.
- In the Southern Hemisphere: Polaris isn't visible, but you can use the Southern Cross constellation to find South.

4. WIND AND WEATHER

In some places, the wind often blows in the same direction. For example, in parts of the Arctic, the wind may come from the North. Pay attention to how the wind feels on your face!

5. SHADOWS

During the day, shadows can show you directions. Put a stick in the ground and mark where its shadow falls. Wait a little while and mark where the shadow moves. The first mark shows West, and the second mark shows East.

6. SNOW AND ICE

In cold places, snow and ice can melt faster on the South side of rocks and trees because that side gets more sunlight. If you see snow melting unevenly, it might help you find South!



NAVIGATING BY THE SUN

ACTIVITY 2: DRAW YOUR HOUSE AND DIRECTIONS

1. Draw your house in the middle of the page.
2. Think about where the sun rises and sets near your house. Draw the sunrise.
3. Label where East and West are on your drawing.
4. Use what you've learned to add North and South to your map!



BUILD A COMPASS

DESIGN AND BUILD

Draw your compass set up.

TESTING YOUR COMPASS:

1. Did the needle point the same way each time?

YES ☐

NO ☐

2. What happened when you moved the bowl around?

3. What could make it hard to use a compass in snowy or icy weather?







