

REINDEER

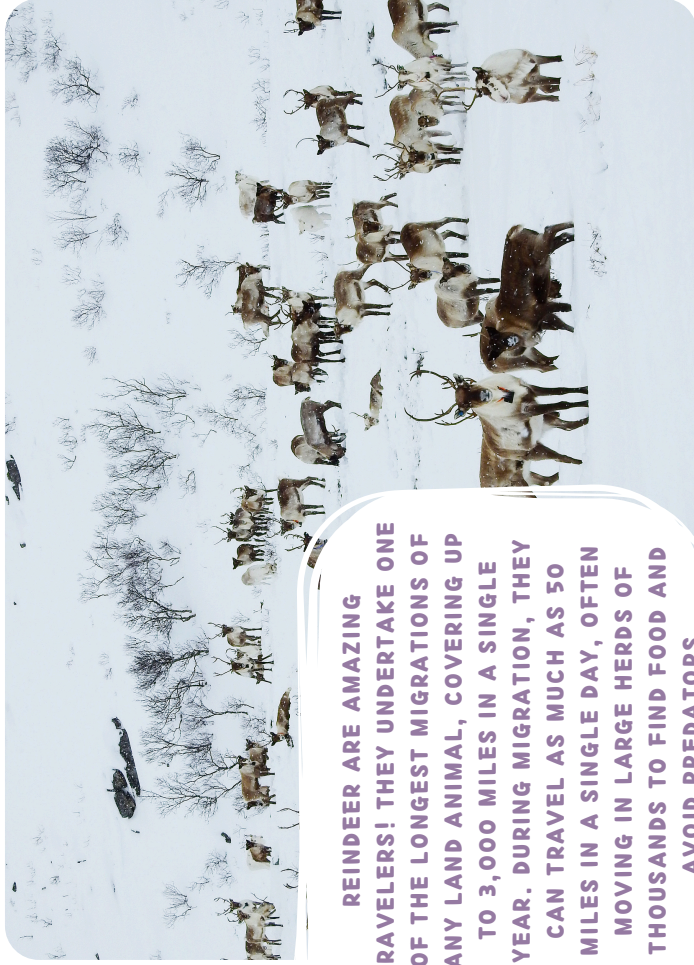
VISION



LAPLAND

This fact file compliments
Lesson 4 in the Serengeti
Science Expedition.

fact file



REINDEER ARE AMAZING TRAVELERS! THEY UNDERTAKE ONE OF THE LONGEST MIGRATIONS OF ANY LAND ANIMAL, COVERING UP TO 3,000 MILES IN A SINGLE YEAR. DURING MIGRATION, THEY CAN TRAVEL AS MUCH AS 50 MILES IN A SINGLE DAY, OFTEN MOVING IN LARGE HERDS OF THOUSANDS TO FIND FOOD AND AVOID PREDATORS.



REINDEER HAVE A SPECIAL EYE LAYER CALLED THE TAPETUM LUCIDUM, WHICH TURNS BLUE IN WINTER TO REDUCE GLARE FROM ARCTIC SNOW, ACTING LIKE BUILT-IN SUNGLASSES TO IMPROVE THEIR VISION IN LOW LIGHT.



WHAT DO REINDEER SAY BEFORE THEY TELL A JOKE?

This one's gonna sleigh you!



REINDEER CALVES CAN RUN WITHIN JUST A FEW HOURS OF BEING BORN! THIS HELPS THEM KEEP UP WITH THE HERD AND AVOID PREDATORS.

AMAZING!

REINDEER EYES SEEING THE WORLD DIFFERENTLY

Seasonal Color Change

Reindeer eyes are unique because their eye color changes with the seasons!

In summer, their eyes are golden, which helps them reflect more light during the bright Arctic days.

In winter, their eyes turn blue, improving their ability to see in the low-light conditions of the polar night.

UV Vision

Reindeer can see ultraviolet (UV) light, which humans cannot see.

This helps them survive in their Arctic environment, where UV light is reflected off the snow.

Why UV Vision is Important

Spotting predators: Wolves, which blend into the snow, appear as dark shapes in UV light.

Finding food: Lichen, a staple in their diet, absorbs UV light and stands out against the snow.

Navigating their environment: UV vision allows them to see paths, rocks, and obstacles even in snowy, bright conditions.

How Their Eyes Work

Reindeer eyes are adapted to detect a wider spectrum of light than human eyes.

The tapetum lucidum (a reflective layer behind the retina) enhances their ability to see in dim light, helping them make the most of the scarce winter daylight.

Fun Fact

Reindeer are one of the only mammals known to see UV light, a skill that gives them a superpower in their Arctic world!



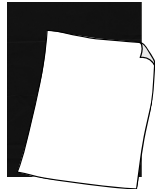
REFLECTIVE PROPERTIES OF MATERIALS

Science Activity

You will need:



Aluminum Foil



White and Black Paper



Mirrors



Fabric



Flashlight

Method:

SET UP THE EXPERIMENT:

1. Gather the materials.
2. Arrange a flashlight and a testing area to explore how light reflects off each material.

TEST REFLECTION:

1. Shine the flashlight on each material, one at a time.
2. Observe:
 - How much light bounces back?
 - How easy is it to see objects near the material?

RECORD OBSERVATIONS:

1. Younger students: Write simple notes like "shiny" or "dull," or rank the materials from most to least reflective.
2. Older students: Time how long your eyes take to adjust after looking at reflective materials. Remember to avoid looking directly into the light.

Just like reindeer, our eyes are incredible at adapting to changes in light! The black circle in the center of your eye, called the **pupil**, gets bigger in the dark to let in more light so you can see better. In bright light, the pupil gets smaller to protect your eyes from too much light. This process happens automatically and helps us see clearly in different lighting conditions. Try testing it yourself by moving from a bright room to a dark room—or shining a flashlight near your eye in the mirror (be careful not to shine it directly into your eyes)!

HOW OUR EYES ADJUST TO LIGHT

the science behind it

HOW OUR EYES ADJUST TO LIGHT

lets talk about it

What happens to your pupils when you move from a bright room to a dark room? Why do you think this change happens?

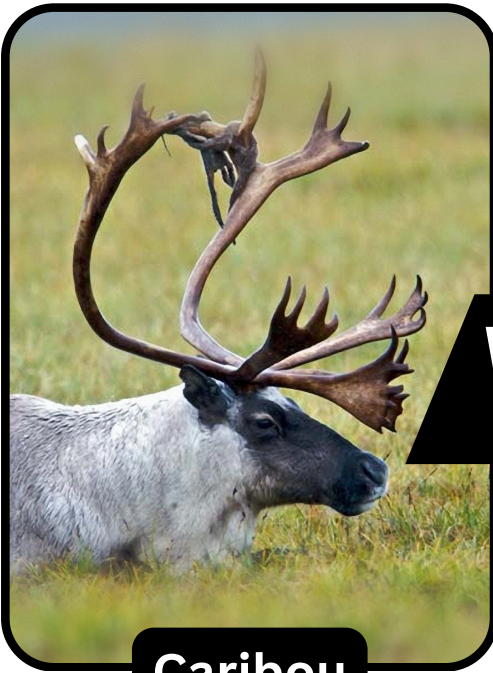
If you shine a flashlight near your eye (but not directly into it), how do your pupils respond? What might this tell us about how eyes protect themselves?

Do you notice any difference in the speed of pupil dilation and contraction? Does your eye adjust faster to light or to darkness?

Why do you think reindeer might need a more extreme version of this ability to adjust their eyes compared to humans?

Can everyone's eyes adjust to light and darkness at the same speed? Test with a friend or family member—are there any differences? Why might this be?

What's The Difference?



Caribou

VS



Reindeer

HABITAT:

Reindeer are native to the tundra and boreal forests of Eurasia and Scandinavia. Caribou are found in the Arctic and subarctic regions of North America, including Canada and Alaska.

NAME:

Reindeer and caribou are technically the same species (*Rangifer tarandus*). The term "reindeer" is commonly used in Europe and Asia, while "caribou" is used in North America.

ANTLERS:

Both males and females of both species grow antlers, but caribou antlers tend to be taller and more branched, whereas reindeer antlers are shorter and more compact. Reindeer antlers are also often used for clearing snow.

COAT:

Reindeer coats are thicker and denser than caribou coats, with reindeer having a wide variety of colors, including white. Caribou tend to have darker coats with white necks and undersides.

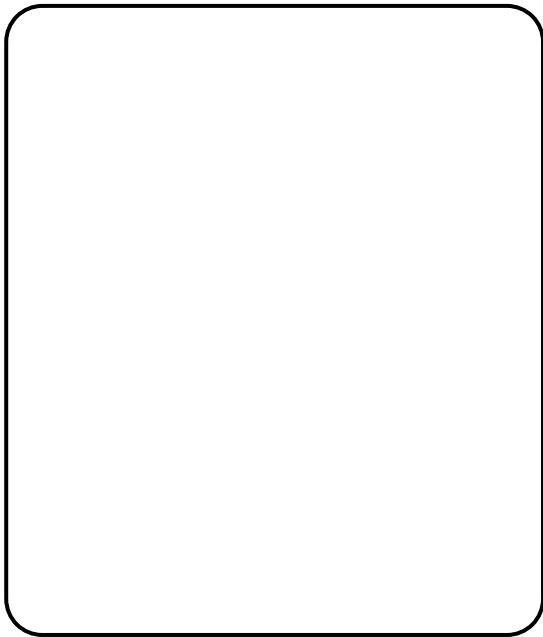
BEHAVIOUR:

Reindeer are domesticated in many areas, particularly in Eurasia, and are used for milk, meat, and transportation. Caribou, on the other hand, are wild animals found primarily in North America and are known for their long migrations.

Name: _____

Date: _____

FACT FILE: REINDEER



Adaptations for Survival:

Habitat: _____

Diet: _____

Interesting fact: _____
