

RINGED SEAL

I N S U L A T I O N

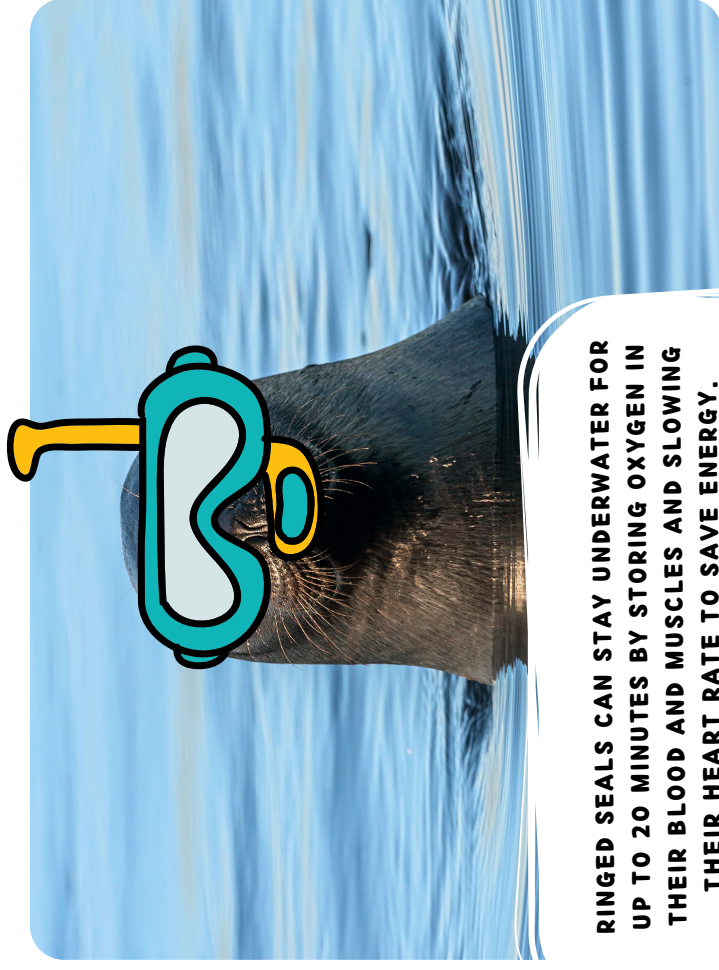


LAPLAND

This fact file compliments
Lesson 6 in the Lapland
Science Expedition.

fact file

RINGED SEAL PUPS ARE BORN WITH FLUFFY WHITE FUR, CALLED LANUGO, WHICH KEEPS THEM WARM IN FREEZING TEMPERATURES.



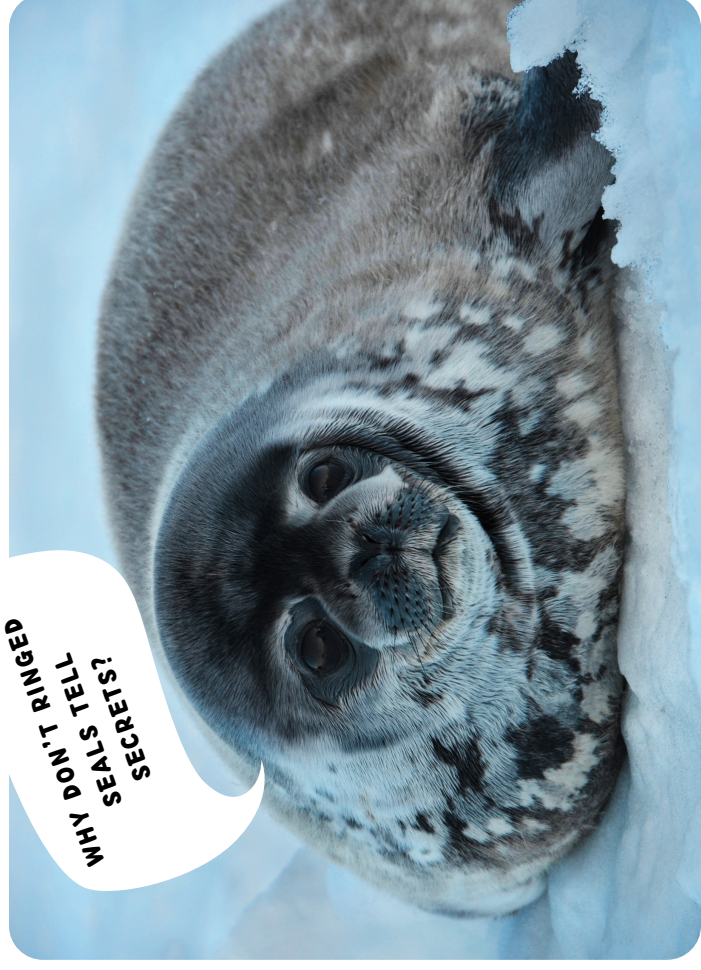
RINGED SEALS CAN STAY UNDERWATER FOR UP TO 20 MINUTES BY STORING OXYGEN IN THEIR BLOOD AND MUSCLES AND SLOWING THEIR HEART RATE TO SAVE ENERGY.



RINGED SEALS USE THEIR SHARP CLAWS TO DIG AND MAINTAIN BREATHING HOLES IN THICK ARCTIC ICE, WHICH THEY RELY ON TO SURVIVE.



WHY DON'T RINGED SEALS TELL SECRETS?



Because their lips are sealed!

BLUBBER GLOVE EXPERIMENT

Science Activity

You will need:



Crisco (or similar shortening)



2 resealable sandwich bags/ person



Bowl or container filled with ice water



Plastic gloves (optional)

Method:

PREPARE THE BLUBBER GLOVE:

1. Spread a **thick** layer of Crisco inside one resealable bag. Line the entire bag
2. Place a second bag inside, pressing it against the Crisco to create a “blubber glove.”

TEST THE GLOVE:

1. Fill a bowl or container with ice water.
2. Place one hand in the “blubber glove” and the other in a plain bag.
3. Dip both hands into the icy water at the same time and notice the difference!

Observe and Discuss:

- Which hand felt colder? Why?
- How does the blubber keep heat in?
- Can you think of other animals that might use blubber like this?

For Junior Explorers: Use simple observations to describe how each hand feels in the water.

For Explorers: Record how long each hand can stay in the water and discuss why blubber works so well.

BLUBBER the science behind it

Blubber is a thick layer of fat beneath the skin of marine animals like seals, whales, and polar bears, and it's essential for their survival in icy environments. This incredible fat layer acts as an insulator, keeping body heat trapped and preventing it from escaping into freezing water, which pulls heat away up to 25 times faster than air. Without blubber, these animals would lose warmth too quickly and freeze.

Blubber also helps marine animals move more easily in water. Its flexibility reduces drag, allowing seals and whales to swim smoothly and efficiently, even in freezing conditions. It's like wearing a wetsuit that also works as a food pantry and heater!

Blubber is a perfect example of how animals are designed to survive extreme environments, combining warmth, energy storage, and mobility into one incredible adaptation.

BLUBBER lets talk about it

Imagine you're swimming in icy water. What would you wear to stay warm? How is that similar to how a ringed seal uses its blubber and fur?

Why do you think a ringed seal's fur and blubber are both important for keeping it warm? Could it survive with just one of these adaptations?

Ringed seals dig breathing holes in the ice to survive. How do you think their claws help them in such a cold environment? What might happen if they couldn't dig these holes?

Can you think of ways humans might learn from seals' adaptations to design better cold-weather clothing or technology?

FUN FACT

HOW DO RINGED SEALS STAY WARM?

Blubber Power

Ringed seals have a thick layer of blubber under their skin. It acts like a cozy blanket, keeping them warm even in freezing water!

BLUBBER: A thick layer of fat found under the skin of marine animals, like seals and whales. It keeps them warm by trapping heat inside their bodies and also provides energy when food is hard to find. It's like nature's built-in winter coat!

Furry Friends

Their thick fur helps keep water away from their skin, just like a waterproof coat.

Double Insulation

Blubber traps heat inside, while their fur keeps cold water out—a perfect Arctic combo!

Nature's Energy Bar

Blubber doesn't just keep them warm—it also stores energy for when food is hard to find.

Seals vs. Humans

We wear thick jackets and waterproof coats to stay warm, but seals are always ready for the cold with their built-in insulation!

Materials That Keep Us Warm

Here's a list of materials humans use to stay warm, just like animals use fur and blubber!

Wool

Comes from sheep! Wool traps heat and keeps you warm, even if it gets wet.

Fleece

A soft, fluffy material made by humans. It's lightweight but great at keeping you cozy.

Down Feathers

Taken from ducks or geese, these feathers are super fluffy and are often used in jackets and sleeping bags.

Cotton

A breathable, natural fabric that's comfy but best for milder cold since it doesn't trap heat as well when wet.

Leather

Durable and windproof, it helps block the cold and is often used in jackets and gloves.

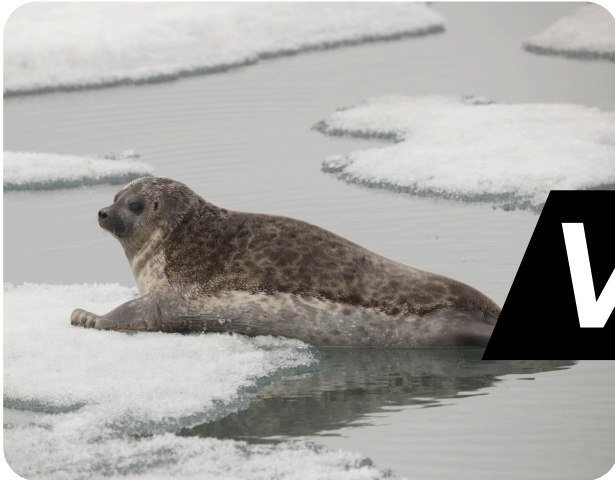
Wetsuit Material (Neoprene)

Keeps swimmers and divers warm in cold water by trapping a thin layer of water against the skin and warming it.

Synthetic Insulation

Materials like polyester (used in puffy jackets) mimic the warmth of down but are lightweight and water-resistant.

What's The Difference?



VS



Ringed Seal

Harp Seal

HABITAT:

Ringed seals live near sea ice year-round in the Arctic. Harp seals migrate between Arctic and sub-Arctic regions, often moving south in the winter.

BEHAVIOR:

Ringed seals are more solitary and spend a lot of time near their breathing holes or snow dens. Harp seals, on the other hand, are more social and often gather in large groups during migration and breeding.

BREATHING HOLES:

Ringed seals are known for creating and maintaining their own breathing holes in thick Arctic ice using their sharp claws. Harp seals typically rely on open water and don't dig their own breathing holes.

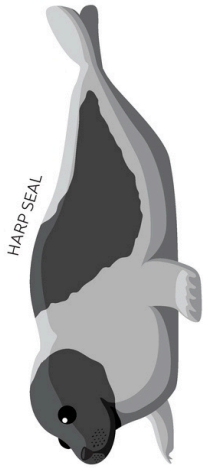
MIGRATION:

Harp seals are long-distance travelers, migrating thousands of miles between their breeding and feeding grounds. Ringed seals stay closer to home, sticking to the Arctic sea ice year-round.

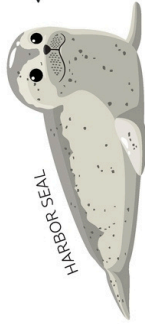
ADAPTATIONS:

Ringed seals rely on their thick blubber and fur to survive the freezing temperatures of the Arctic. Harp seals also have blubber, but their adaptability to migrate south means they experience a wider range of temperatures.

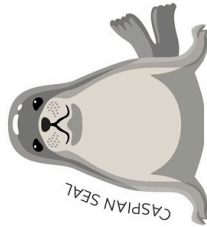
SEALS OF THE WORLD



HARP SEAL



HARBOR SEAL



CASPIAN SEAL



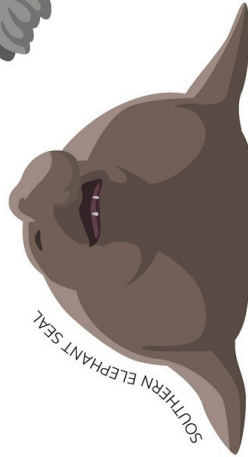
ROSS SEAL



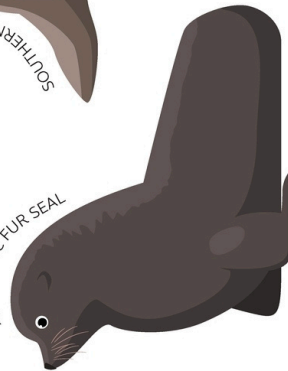
GALAPAGOS SEA LION



AUSTRALIAN SEA LION



SOUTHERN ELEPHANT SEAL



ANTARCTIC FUR SEAL



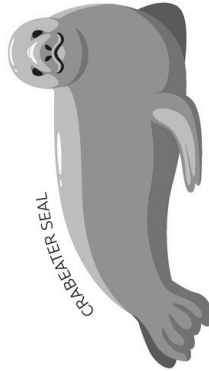
HOODED SEAL



SUBANTARCTIC FUR SEAL



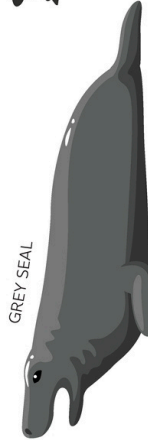
STELLER SEA LION



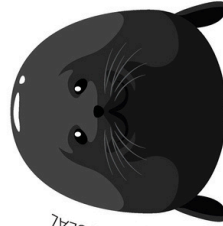
CRABBEATER SEAL



NORTHERN FUR SEAL



GREY SEAL



BAIKAL SEAL



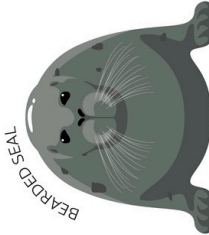
RIBBON SEAL



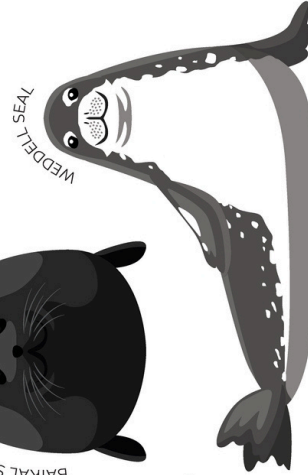
MONK SEAL



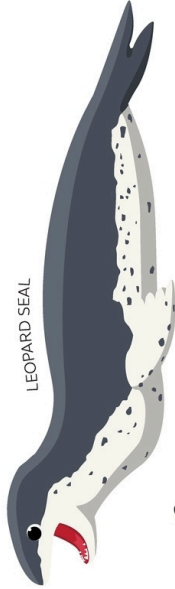
CALIFORNIA SEA LION



BEARDED SEAL



WEDDELL SEAL



LEOPARD SEAL



WALRUS



RINGED SEAL



SOUTH AMERICAN SEA LION



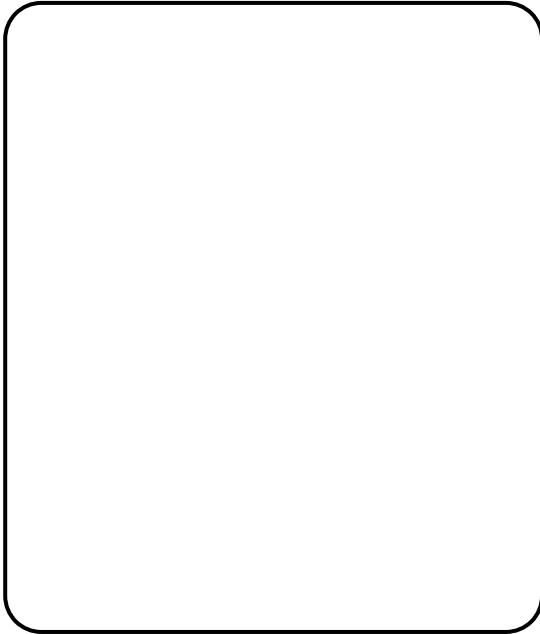
SPOTTED SEAL

Name: _____

Date: _____

FACT FILE:

RINGED SEAL



Adaptations for Survival:

Habitat: _____

Diet: _____

Interesting fact: _____
