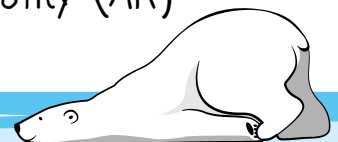


JOKES ASIDE; MEET THE POLAR BEAR



The second edition with augmented reality (AR)
and cool stickers

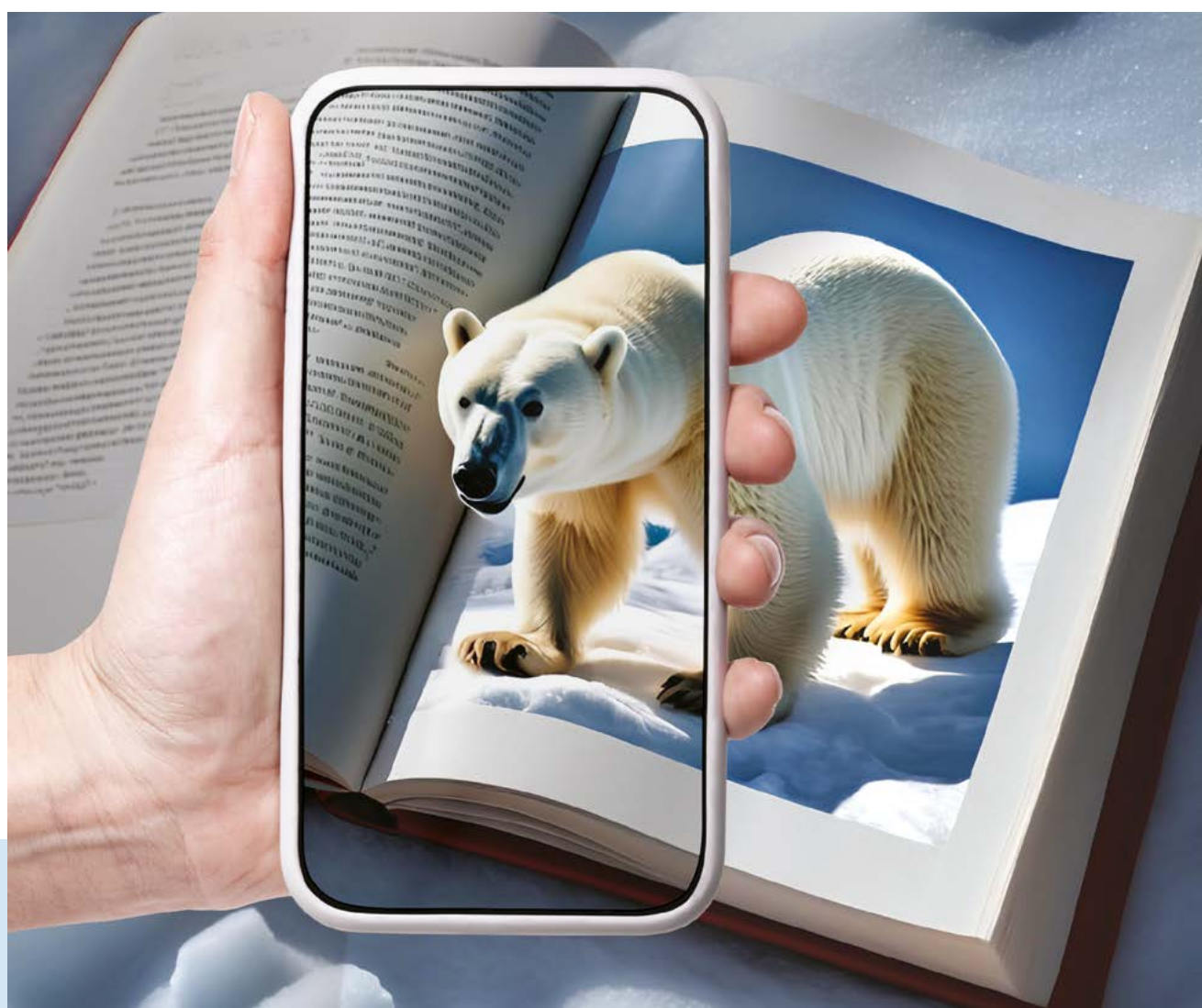


#polar_day



Jokes Aside: Meet the Polar Bear

The second edition with augmented reality (AR) and cool stickers



УДК 599.742.22

ББК 28.693.36

С33

About this book

About one fifth of the Russian territory lies north of the Arctic Circle. For generations, Russians have been exploring and settling in the High North. The polar bear, a mighty beast ruling over the northern wilderness, has become the symbol of the Russian Arctic. The very word «Arctic» originates in the Greek «arktos» («bear») and means the «region located under the constellation Ursa Major» (aka Great Bear, Big Dipper).

Today, Russia's presence in the High North keeps increasing. The neighborhood of the Arctic's two masters — man and bear — must not be to the detriment of either one. The expert center «Arctic Development Project Office», in collaboration with the environmental movement «Friends of the World Around Us» (DOM), and under the guidance of methodologists and tutors from the «White Bear» educational center, prepared a booklet with augmented reality. You have in your hands the second edition of this book. We added several new chapters and introduced minor changes and additions based on feedback from schoolchildren during lessons.

This book features interesting facts about the polar bear, its living environment, nutrition and behavior. This book is intended for primary and secondary school children. It is suitable for extracurricular reading and can also serve as a supplementary textbook for nature studies and biology classes.

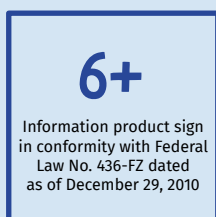
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To Our Young Readers

Dear friend!

This book is called *Jokes Aside: Meet the Polar Bear*.

With its help, you will be able to:

- ✓ learn interesting facts about the polar bear – the biggest and the most fearsome predator on Earth – and its cute cubs,
- ✓ take a closer look at the polar bear and other animals with the Polar Bear app on your smartphone,
- ✓ you will learn how the bear's body has adapted to severe conditions of the Arctic.

The book also comes with a bonus – cool polar bear stickers!

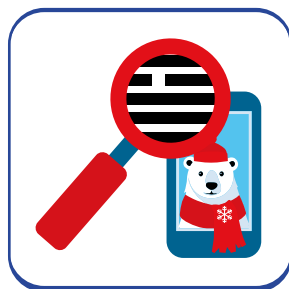
It's much more fun to read this way!

See the Polar Bear in AR:

1 Download the "White Bear" app from Google Play or the App Store.



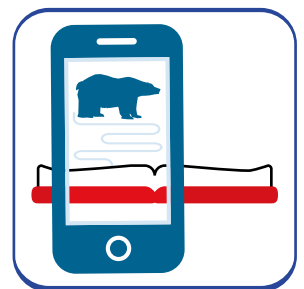
2 Find the bear icon on the smartphone screen in the book.



3 Point your camera at the page with the icon.



4 Step into augmented reality!





The Biggest Bear

There are several bear species on Earth.

The polar bear is the biggest and the strongest of them all.



#what_bear_are_you_grown_to





Absolute Champ

Once, people encountered a record-breaking polar bear. Its weight was 1,002 kg. When it stood on its hind legs, its height reached 3.4 meters.

Polar bears stand firmly on their hind legs, maintaining balance. Even cubs as young as three months can stand on their hind legs. Polar bears really need this skill for safety, observation and hunting.

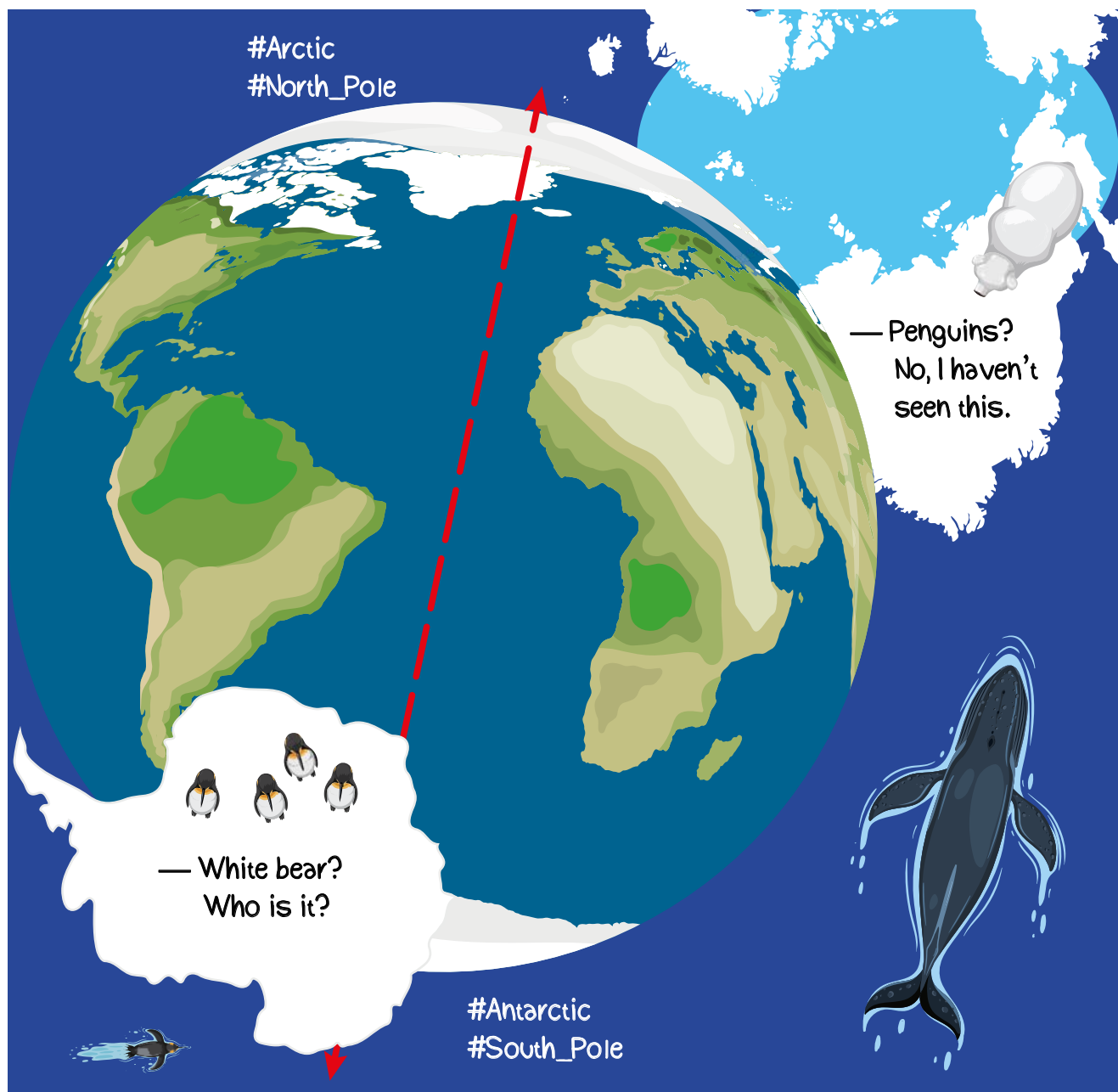


Arctic Is Not Antarctic

Polar bears live in the Arctic only. The Arctic is a cold region covered with ice and snow. Even in summer the weather is rather cold — and it turns freezing cold in winter. The North Pole is in the Arctic. Our planet has the South Pole, too. It is in the Antarctic. It is also very cold down there, but polar bears do not live in the Antarctic. Penguins do!

How can you tell them apart? The names sound almost the same, and it's cold in both places.

Here's how to remember it: The Arctic is a region, while the Antarctic is a natural zone that contains a continent — Antarctica. Also, the Arctic is home to polar bears, and Antarctica is home to penguins.





White Or Polar?

Even though «polar bear» literally translates from English as «полярный медведь», in Russian it's usually called «white bear». The most famous name for a polar bear, Umka, comes from the classic Soviet cartoon of the same name. In the Chukchi language, «Umka» actually means «an adult male polar bear».

The Pomors (coast-dwellers of the White Sea and of the Barents Sea) call the bear «oshkui», the Eskimos know it as «nanuk». The Norwegians call it «isbjørn», which means «ice bear». In East Greenland, it's called «tornassuk» – meaning «master of helping spirits». And there are some truly magical names for it too: white sea deer, God's dog, the terror of seals, rider on icebergs, the bane of whales, sailor on ice floes, and old man in a fur coat.

For the Indigenous peoples of the North, the polar bear is called «grandfather» or «grandpa», as they see it as a spiritual ancestor or guardian.





Sea Bear

The polar (white) bear spends a significant portion of its life in water or on floating ice. It hunts marine animals and it is a perfect swimmer and diver. This is why it received its official scientific name (*Ursus maritimus*) which means «sea bear» in Latin.

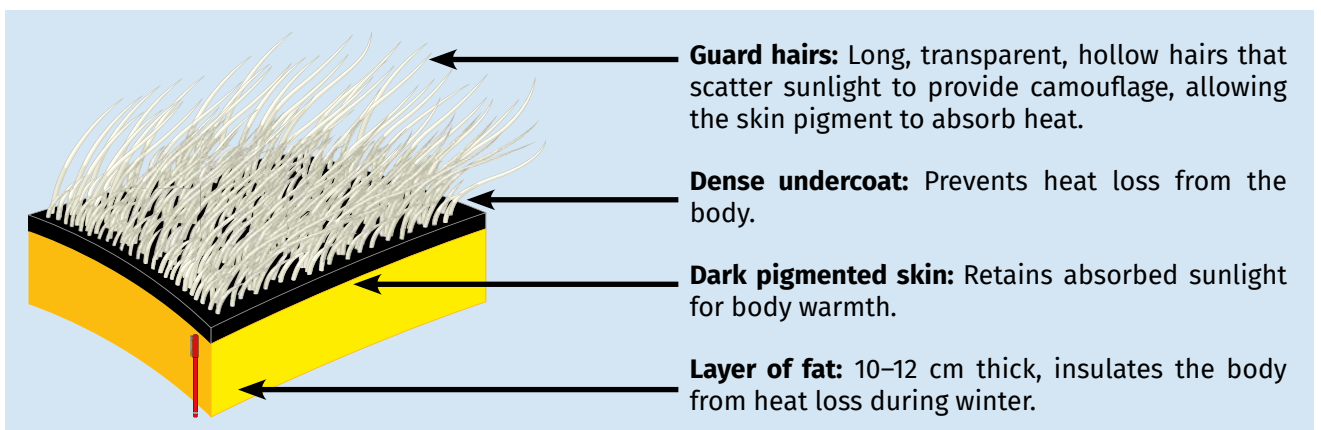
When swimming, it paddles like a dog, and its broad paws are even equipped with special webbing. The swimming speed of an adult polar bear is approximately 10 km/h (6.2 mph).

Polar bears can swim for entire days without resting, traveling hundreds of kilometers through the water. The record stands at incredible 687 kilometers in 9 days, achieved by a female polar bear who swam non-stop. She was forced to set this record while looking for new ice and a place to hunt.



Black-and-White

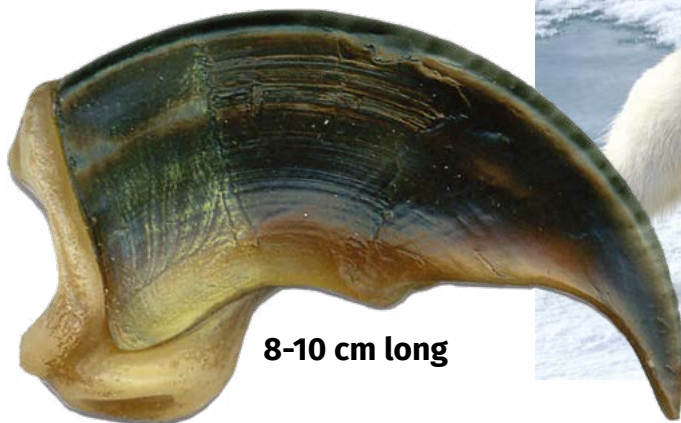
The polar bear's fur is colorless and transparent. It only seems to be white, as it reflects bright light. The polar bear's nose, paw pads and skin are black in color. So, polar bears are actually black (more precisely, black-skinned).



Clawed Snow Shoes

The polar bear's paws are wider than those of other bears. They don't sink into deep snow. Soles have thick leathery pads that help prevent slipping on ice. Like humans, polar bears have five toes on each paw. Each toe has a sharp, curved claw. These claws are shorter but wider than those of a brown bear. Unlike cats, the polar bear's claws are non-retractable.

Polar bear



Brown bear



Black bear



Bite Force Champion

Another one of the polar bear's most important hunting tools is its teeth. An adult polar bear has 42 teeth. The teeth of the polar bear vary in form and function: 12 front teeth are incisors, 4 sharp and long teeth are canines, and 26 wide teeth are for grinding food.

The polar bear is the champion of bite force! It turns out that bites can be measured. This measurement is called the bite force quotient and is measured in kilograms. Well, the polar bear's bite force quotient is 226.5 kilograms – the highest among all living land predators.

Humans bite too! The average human bite force is 45-68 kilograms. Another Arctic resident, the Arctic fox, bites with about the same force.

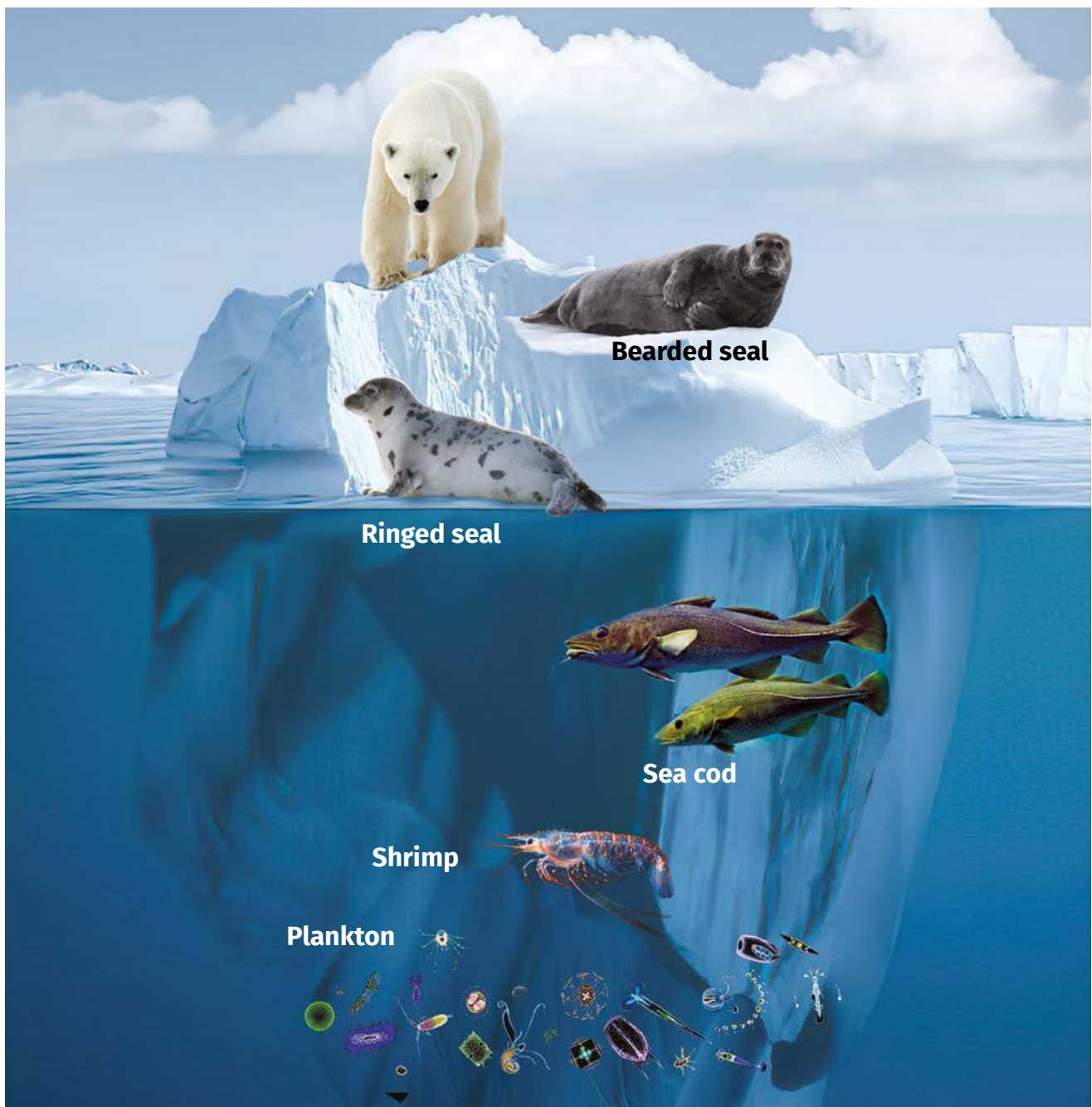


Master Of The Arctic

The polar bear lives where berries don't grow, and there are no bees to make delicious honey. You won't find tasty nuts, acorns, or roots there — the kinds of food that brown bears enjoy.

The polar bear has to hunt. Its main prey are marine mammals — the ringed seal and the bearded seal. The ringed seal and bearded seal feed on Arctic fish. The fish eat northern shrimp. And the shrimp feed on plankton.

But no one preys on the polar bear. It stands at the very top of the food chain in the Arctic. That's why the polar bear is called the "master of the Arctic".



Agile Hunter

The polar bear usually moves leisurely, waddling along, gently swaying its head from side to side as it surveys its surroundings. But the polar bear's slowness is deceptive. When it charges, its speed can be faster than that of a world champion 100-meter sprinter.





Mr. Unpredictable

The polar bear is a model of patience, a master of camouflage, and a champion of unpredictability. It can wait motionless for hours by a seal's breathing hole, hidden among ice hummocks, before launching a lightning-fast attack. Even the most cautious and vigilant seal won't spot the bear until the very moment of the strike.





Super Sniffer

Polar bears have incredibly sharp senses. They see about as well as we do, hear a bit better, and their sense of smell is in a league of its own. That amazing nose helps them track down food — they can sniff out a seal from 1.6 kilometers away or even through a meter of snow.

To put it in perspective: a bear's sense of smell is 100 times stronger than a human's.





Curious Wanderer

The polar bear's lifestyle is simple and uncomplicated. When not hunting, the polar bear rests or sleeps. After satisfying its hunger, the bear catches up on sleep. Upon waking, it slowly wanders on in search of new prey. The bear is distracted by anything it encounters along the way. Everything is interesting — a log washed ashore, a barrel, a pile of rocks. The bear will definitely come over, sniff it, touch it with its muzzle and paws, and will try to knock it over, break it apart, or tear it up. If there might be polar bears in the area, it's best not to leave rubber boats, tents, or backpacks unattended.



Caring Mom

When a female polar bear reaches 4–5 years of age, she has cubs. Before giving birth, the mother builds up necessary fat reserves, finds a den, and settles in to wait for her cubs. Even if severe frosts rage and winds howl outside the den, inside it's always a comfortable temperature for the polar bear and her cubs: -17°C (1.4°F).

Unlike brown bears, polar bears do not hibernate for long periods.





Helpless Cubs

In winter, cubs are born in the den. Most often, two cubs arrive. They are born very small, nearly hairless, and completely defenseless. The cubs feed on their mother's milk. Polar bear milk is extremely rich. Milk fat content is measured as a percentage. For the polar bear, the fat content of her milk is 31%.



Photo: @Xinhua/Landov/Barcoft Media

#bear_child

30 cm long, 400-700 g



#human_child

50 cm long, 3-3,5 kg



First Steps

By spring, cubs have gained 10–15 kg. They follow their mother out of the den. The family only ventures out for their first walks during the day and only in a good weather. The mother teaches her cubs to swim and hunt. Cubs stay with their mother for two years, after which they begin their independent lives.



— You stepped on my shadow!



The Red Book

The polar bear is listed in the International Red Book and the Red Book of Russia. This is what we call lists of animals and plants that need human protection. The polar bear also needs to be protected. Russia banned polar bear hunting back in 1957. Today, specially protected natural areas have been established in our country where polar bears live: nature reserves, national parks, natural parks, and wildlife sanctuaries.

On the territory of the Russian Arctic, 28 specially protected natural areas and water areas have been established.



A Bear To Respect

Polar bears might look calm and even friendly, but never forget — they are powerful predators. A hungry bear sees a human as a possible meal. If you're in a polar bear country, you absolutely must follow some basic safety rules.



1

Stay close to your parents at all times — don't wander off alone!



2

If you spot a polar bear, keep your distance!



3

Don't run from a polar bear — it will think you're prey and will chase you.



4

Never turn your back on a bear.



5

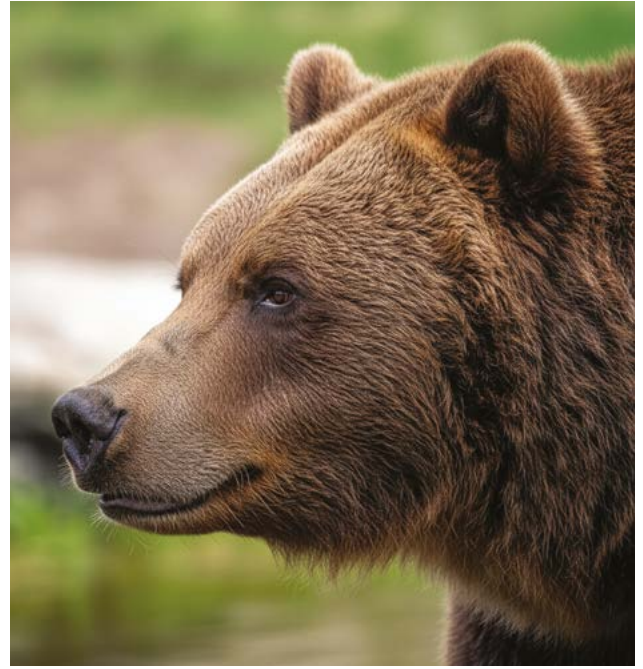
Never lie down on the ground — that's where seals, the bear's natural prey, lie.



The Polar Bear is Mr. Clean

Polar bears are messy eaters – they can get really dirty during a meal. But unlike us, who wash up before eating, polar bears clean themselves afterward. And they take their time, spending around half an hour grooming. They'll take a dip in the water, have a good roll in the snow, comb their fur with their paws, and give themselves a thorough licking. Why? Because a clean, scent-free coat is super important for a hunter like the polar bear!





Friendship Between Polar And Brown Bears

Today, due to climate change, the habitats of polar bears and brown bears are overlapping. They encounter each other and even form temporary pairs, which can produce viable offspring.

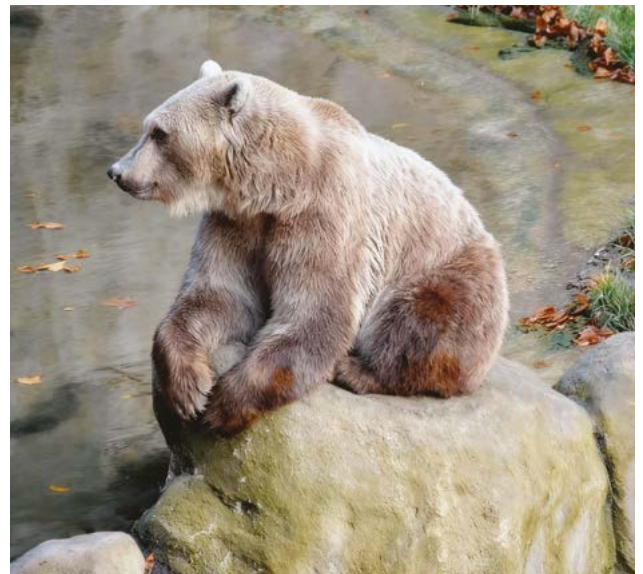
Mother POLAR BEAR + Father GRIZZLY BEAR = GROLAR

Mother GRIZZLY BEAR + Father POLAR BEAR = PIZZLY

These hybrid bears can be found both in zoos and in the wild.



Male hybrid grolar



Male hybrid pizzly



Polar Bear Day

International Polar Bear Day is celebrated on February 27. This date was chosen for a reason: it's the time when mother bears are preparing to emerge from their dens with newborn cubs, making them especially vulnerable. This day aims to draw attention to the challenges these bears face: global warming, which causes ice to melt and reduces their hunting grounds, and poaching — the illegal killing of these amazing animals for their fur. Many zoos and museums hold special events on this day: photo exhibitions, lectures, and educational lessons reminding us of the importance of preserving this species.

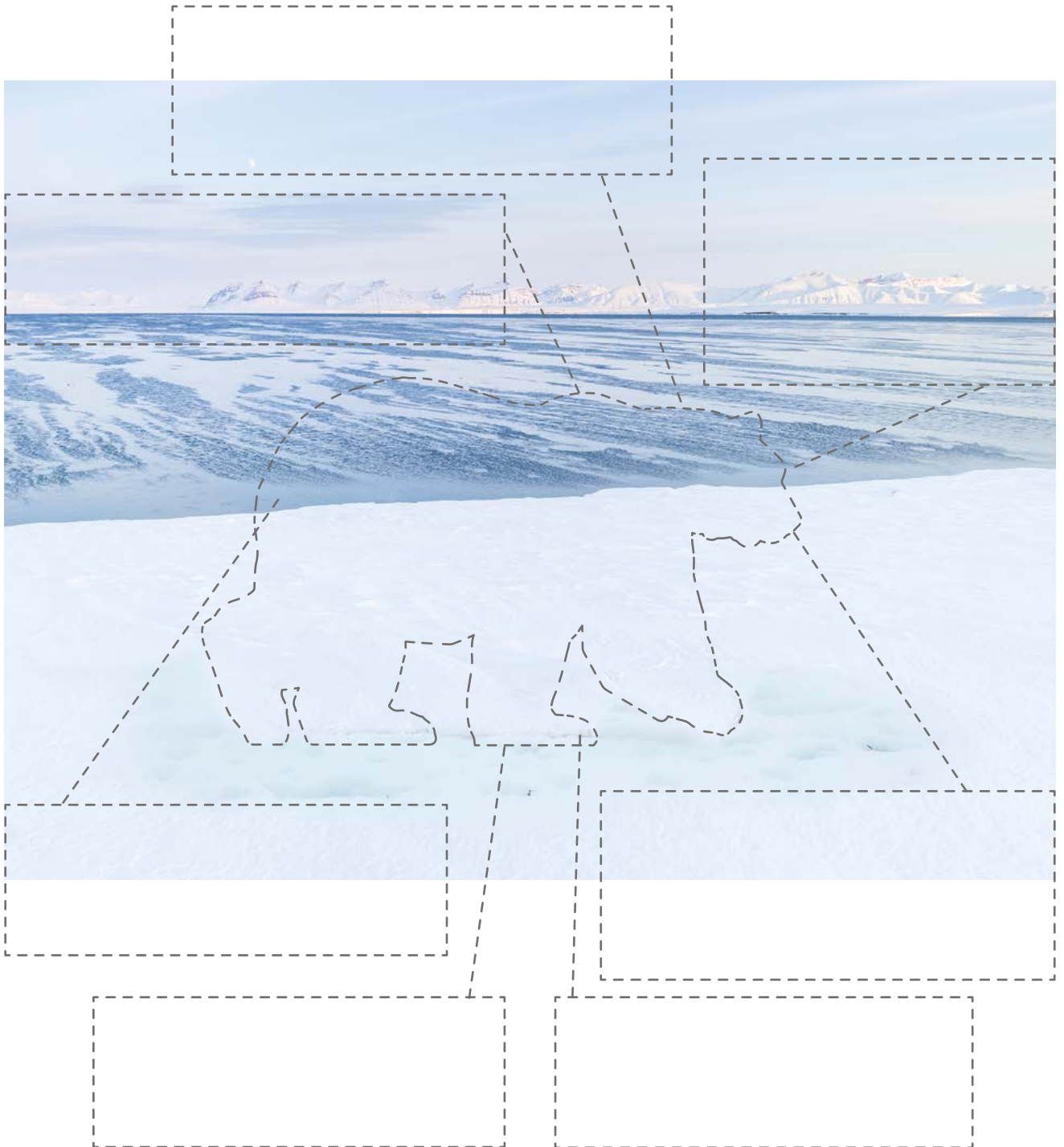


How Polar Bears Adapt to Arctic Climate

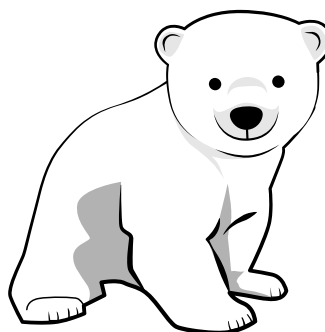
Now show us what you remember about polar bears!

Grab the sticker page, find the polar bear picture and the fact cards about how they survive in the Arctic. Stick them in place along the dotted lines.

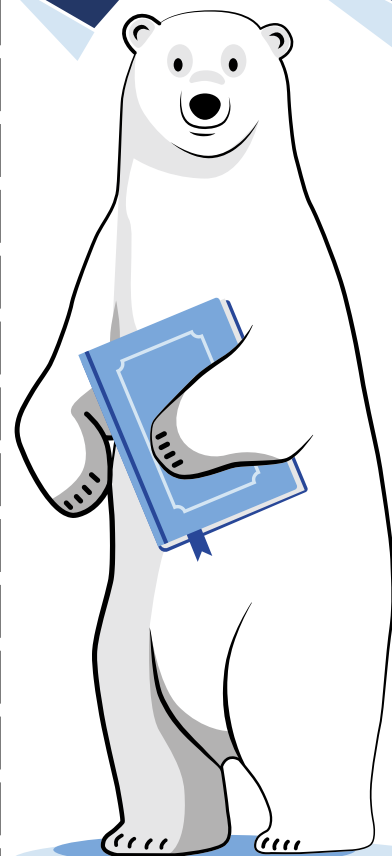
Talk about what you've learned with your friends, parents, or teachers. Got questions? Don't be shy — ask!



- Time to make your bookmarks!
- ✓ Cut along the black dotted lines where you see the little scissors. You can stop there, or make them extra special.
 - ✓ Fold along the white dotted line at the top.
 - ✓ Carefully poke a hole through the white circles using scissors or a pencil.
 - ✓ Thread a ribbon or string through the hole and fasten it with tape or glue — now your bookmark is ready to use!



Let's read?!



6+

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🌐 www.upnn.ru

#polar_night





- ✓ Download the Polar Bear app in Google Play and AppStore
- ✓ Look for the bear icon on the smartphone screen throughout the book



- ✓ Point your camera at the icon and step into augmented reality!



- ✓ Exciting facts about polar bear
- ✓ Training activities
- ✓ 3D images of Arctic animals in augmented reality
- ✓ Cool polar bear stickers



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