



Polar bear quiz

Questions

1. *Ursus Maritimus* is the scientific name for the polar bear. What does it mean?
 - a. Sea bear
 - b. Ice bear
 - c. White bear
 - d. Old man in the fur cloak
2. Polar bears live alongside penguins. True or false?
3. Where do polar bears live?
4. What is a polar bear's favourite food?
 - a. Seaweed
 - b. Seals
 - c. Penguins
 - d. Ice cream
5. Can polar bears swim?
6. Polar bears are important to the Arctic food chain. True or false?
7. In which season are polar bears born?
8. What age do polar bears live up to?
9. How many cubs do mother polar bears usually have?
 - a. 2
 - b. 6
 - c. 10
 - d. 14
10. How big are polar bear cubs when they are born?
 - a. They are similar in size to a human baby
 - b. They are similar in size to a mouse
 - c. They are similar in size to a guinea pig
 - d. They are similar in size to a baby elephant
11. A polar bear's fur is white. True or false?
12. How does a polar bear keep warm?
13. Why does a polar bear have very wide, large paws?
14. Why does a polar bear have nostrils that it can close?
15. The biggest threat to the survival of polar bears is climate change. True or false?



Polar bear quiz!

Answers

1. Sea bear.
2. False.
3. The Arctic: Roughly 60% of the world's polar bears are found in Canada, with the remaining in the United States of America (Alaska), Greenland, Russia and Norway (the Svalbard archipelago).
4. Seals.
5. Yes!
6. True.
7. Winter.
8. 25-30 years old on average.
9. Two.
10. Similar size to a guinea pig.
11. False.
12. A thick layer of fur to protect their bodies from the extremely cold air; a layer of fat (called 'blubber'); **black skin** under their coat, which helps them soak up the sun's rays.
13. To help them walk across snow and ice and to swim.
14. So they can swim under water.
15. True.



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Further Information

1. *Ursus Maritimus* is the scientific name for the polar bear. What does this mean?

- a. Sea bear
- b. Ice bear
- c. White bear
- d. Old man in the fur cloak

Ursus Maritimus is Latin for 'maritime' or 'sea bear'. Commander C.J. Phipps, an officer in the British Navy and author of *A Voyage towards the North Pole*, used it for the first time in 1774.

Other names for the polar bear:

- Later, the scientific name *Thalarctos* gained acceptance. It is a combination of the Greek *thalasso*, meaning 'sea', and *arctos*, meaning 'bear of the north'.
- To the Inuit, the polar bear is *Nanuq*, 'an animal worthy of great respect'. In their poetry, he is *Pihoqahiak*, 'the ever-wandering one'.
- The Russian term for polar bear is *beliy medved*, 'the white bear'.
- In Norway and Denmark, the polar bear is *isbjorn*, 'the ice bear'.
- Norse poets described the polar bear as 'white sea deer', 'the seal's dread', 'the rider of icebergs', 'the whale's bane' and 'the sailor of the floe'. They praised polar bears for having the strength of 12 men and the wit of 11.
- In Greenland, the polar bear is known as *Tornassuk*, 'the master of helping spirits'.
- Sami (or Lapp) people refuse to say the polar bear's real name for fear of offending him. Instead, they call him *God's d'g* or 'old man in the fur cloak'.
- The Ket, a Siberian tribe, revere all bears. They call them *gyp*, meaning 'grandfather', or *qoi*, meaning 'stepfather'.

2. Polar bears live alongside penguins. True or false?

Although popular art and children's books often show polar bears and penguins together, the two live at opposite poles. Penguins live on Antarctica, an ice-covered continent surrounded by oceans, at the South Pole. Polar bears are native largely to the Arctic Circle, encompassing the Arctic Ocean, its surrounding seas and surrounding land-masses.

3. Where do polar bears live?

Polar bears are found in areas of the circumpolar north where they can hunt their primary prey, ice seals. A polar bear's preferred habitat is the annual sea ice covering the waters over the continental shelf and the Arctic inter-island archipelagos. Roughly 60% of the world's polar bears are found in Canada, with the remaining 40% in the United States of America (Alaska), Greenland, Russia and Norway (the Svalbard archipelago). There are 19 populations of polar bears living in four different sea ice regions across the Arctic.

Circumpolar north - the area traditionally covered by the terms 'Arctic' and 'Subarctic', the northern lands of the world's eight northernmost countries (the Arctic Eight): Canada, Finland, Denmark (including Greenland and the Faroe Islands), Iceland, Norway, Russia, Sweden and the United States of America (Alaska).

Annual ice contains areas of water that appear and disappear throughout the year as the weather changes. Seals migrate in response to these changes and polar bears must follow their prey. In Hudson Bay, James Bay and some other areas, the ice melts completely each summer (an event often referred to as 'ice-floe break up'), forcing polar bears to go onto land and wait through the months until the next freeze-up. In the Chukchi and Beaufort seas, polar bears retreat each summer to the ice that is further north and which remains frozen all year round.

4. What is a polar bear's favourite food?

- a. Seaweed
- b. Seals**
- c. Penguins
- d. Ice cream



Ringed seal.

Polar bears are the planet's biggest land-based carnivores (meat-eaters), although they actually spend most of their lives around water and ice. Adult polar bears can measure over 2.5 m long and weigh around 680 kg; that is more than 107 stone or the weight of a small car! Polar bears generally live and hunt alone, although they can be quite social at times. They mainly eat seals, with the ringed seal (the most abundant Arctic seal) and bearded seal being their key prey; they wait for them to breathe at openings in the ice (known as 'leads') or at breathing holes. Polar bears have to be smart and patient because the wait can be long, from hours to days. Polar bears will also stalk seals that are basking on the ice. Using their remarkable sense of smell, they can detect a seal in the water beneath a metre of compacted snow and from almost one km away. Out of the water, they can sniff out prey up to 16 km away.

While polar bears have evolved as a highly specialised predator of ice seals, they are always alert to other food sources, including vegetation, geese, bird eggs and even the occasional

small mammal. Although individual bears may benefit from eating these alternative foods in places where they occur, there is yet no evidence they could provide enough calories, in the right form, to sustain polar bears at the population level. Polar bears also occasionally feed on other Arctic marine mammals, including bowhead whale carcasses, or walrus, narwhal and beluga whale that become trapped in a *savsatt* (a small opening in pack ice). However, none of these alternative marine foods are available on a predictable enough basis. Freshwater is limited in these environments because it is either locked up in snow or saline. Polar bears can produce water through the metabolism of fats found in seal blubber.

5. Can polar bears swim?

Yes! Despite their size and bulk, polar bears are brilliant swimmers and have been spotted in waters over 100 km from shore. They can comfortably swim at around 10 km per hour, using their slightly webbed, very wide large paws like paddles in the water. Adult polar bears can swim for several hours to get from one piece of ice to another. Their Latin name *Ursus Maritimus* means 'sea bear' because



Polar sighted during Hempleman-Adams expedition to Svalbard.

they spend so much time in or around water. In fact, the polar bear is considered a marine mammal as it spends so many months of the year at sea. However, it is the only living marine mammal with powerful, large limbs that allow them to cover miles on foot and run on land. They can walk or swim long distances to find food or to breed – sometimes roaming across vast areas up to 600,000 sq km. Polar bears walk at 5-6 km per hour, females with small cubs slow their speed to about half that. Polar bears are well known for their slow, plodding gait, but they are also able to gallop as fast as a horse (40 km per hour) over short distances. However, they prefer to amble leisurely. Younger, leaner bears are the best runners, covering up to two kilometres without stopping, but older, larger bears can quickly overheat. In summer, when ice floes retreat, most polar bears follow the ice, sometimes travelling hundreds of miles to stay with their food source.

6. Polar bears are important to the Arctic food chain. **True** or false.

Polar bears are top of the Arctic food chain. They play a vital role in the balance of their ecosystem, ensuring the Arctic food chain stays healthy for the benefit of wildlife and people in and beyond the Arctic. The Arctic provides fish for millions of people, including those in the UK. For thousands of years, polar bears have also had a strong cultural significance for Arctic people, a key figure in material, spiritual, and cultural life.

7. In which season are polar bears born?

In winter. Mating takes place on the sea ice from April until late June, but the fertile ova do not implant until the following autumn. This is called 'delayed implantation'. Pregnant female polar bears dig maternity dens in snow banks in the autumn and usually give birth to their cubs about two months after they enter the den, so in early winter (mostly November or December and usually by early January). The den protects the polar family from the harsh Arctic environment. They emerge from the den four to five months later, in March or April, when the cubs are strong enough to survive outside and ready to make the trek to the sea ice. The cubs will stay with their mother for about two years, during which time they learn the skills needed to survive in the Arctic.

8. What age do polar bears live up to?

In the wild, polar bears can live up to the age of 25-30 years old. However, on average, they live to 15-18 years old. The oldest known polar bear in the Arctic lived for 32 years. The oldest known polar bear in a zoo lived for 45 years.

9. How many cubs do mother polar bears usually have?

- a. 2 b. 6 c. 10 d. 14

Female polar bears give birth to one, two or three cubs. Twins are most common. Until March or April when they emerge from the den, mother and cubs spend much of their time sleeping. During this time, the mother lives off her fat reserves. They choose den sites in snowdrifts along coastal and river bluffs, in hills near sea ice or in banks of snow on the frozen sea. Along southern and western Hudson Bay, mother bears dig into raised peat soils found in palsa formations or along lakeshores and rivers.



Polar Bears sighted on the Polar Ocean Challenge.

10. How big are polar bear cubs when they are born?

- a. They are similar in size to a human baby
b. They are similar in size to a mouse
c. They are similar in size to a guinea pig
d. They are similar in size to a baby elephant

At birth, polar bear cubs are only around 30 cm long and weigh little more than one pound (0.5 kg) – that is about the same as a guinea pig! Cubs grow rapidly on their mother's rich

milk. During her entire time in the den (four to eight months), the mother bear does not eat or drink. When she finally emerges with her cubs, she leads them to the sea ice, so she can break her long fast by hunting seals. Today, cubs generally stay with their mother for two-and-a-half to three years. Historically, polar bears in Hudson Bay weaned in half that time due in part to the high productivity of that region. This is becoming less frequent as these Arctic ecosystems change.

11. A polar bear's fur is white. True or false.

Polar bears are not actually white! Their fur consists of a dense, insulating underfur topped by guard hairs of various lengths, which is not actually white, but just looks that way. Each hair shaft is pigment-free and transparent with a hollow core that scatters and reflects visible light, much like what happens with ice and snow. Polar bears look whitest when they are clean and in high angle sunlight, especially just after the moulting period, which usually begins in spring and is complete by late summer. Before moulting, accumulated oils in their fur from the seals that they eat can make them look yellow. The translucent fur helps them blend in with their surroundings – a useful trick when hunting wary seals!

12. How does a polar bear keep warm?

It is very, very cold in the polar habitats; in fact, they are one of the harshest environments on our planet. Temperatures in the Arctic tundra are usually between -12°C to -6°C, although it can get much colder than that further up the ice cap (as low as -50°C). Polar bears have adapted well to survive in the extreme Arctic environment, with many body characteristics adapted for cold temperatures, in addition to moving across snow, ice and open water.

As well as a thick layer of fur to protect their bodies from the extremely cold air, polar bears have a layer of fat (called 'blubber'), which can measure up to 11.5 cm thick under their skin and helps them stay warm by insulating their bodies from the near-freezing water. Polar bears also have black skin under their glistening coat, which helps them soak up the sun's rays. Their thick coat and a layer of fat keep them warm and camouflaged in their harsh Arctic environment.

13. Why does a polar bear have very wide, large paws?

The wide, large paws (up to 31 cm wide) are perfect for roaming the Arctic – they help a polar bear to walk in the snow, distribute their weight when treading on thin ice and the slightly webbed paws help them to swim efficiently. When swimming, forepaws act like large paddles and hind paws serve as rudders.

14. Why does a polar bear have nostrils that it can close?

When a polar bear swims under water, it closes its nostrils so no water can enter.

15. The biggest threat to the survival of polar bears is climate change. True or false?

Climate change is the biggest threat to the polar bear. They are at particular risk from global warming, which is melting the Arctic sea ice that many polar bears depend on to hunt for food and raise their young. It is hard to imagine such strong predators being at risk, but human-induced climate change is making life tough for them. Due to expected habitat loss, the polar bear is classified as a vulnerable species, with at least three of the 19 polar bear sub-populations currently in decline.

The key danger posed by climate change is malnutrition or starvation as a result of habitat loss. Polar bears hunt seals from a platform of sea ice. Rising global temperatures means that sea ice is melting earlier and forming later each year, leaving polar bears less time to hunt for food, as well as driving them to shore before they have built sufficient fat reserves to survive the period of scarce food in the late summer and early autumn. Reduction in sea-ice also forces polar bears to swim longer distances, which further depletes their energy stores and occasionally leads to drowning. Thinner sea ice tends to break up more easily, which can make it more difficult for polar bears to access seals. Lack of proper food leads to fewer cubs being born, and a lower rate of survival among those born, as well as poorer health in bears of all ages.

Due to warming air temperatures, ice-floe break up in western Hudson Bay is currently occurring three weeks earlier than it did 30 years ago, reducing the duration of the polar bear feeding season.

A new development is that polar bears have begun ranging to new territory. While not unheard of but still uncommon, polar bears have been sighted increasingly in larger numbers ashore, staying on the mainland for longer periods of time during the summer months, particularly in North Canada, and travelling further inland. This may cause an increased reliance on terrestrial diets, such as goose eggs, waterfowl and caribou, as well as increased human–bear conflict. Increased polar bear use of terrestrial foods would also have negative impacts on those species and others who rely on them for survival - the grizzly bear, Arctic fox, wolves and birds of prey.

A warming Arctic also threatens ringed seals. Loss of ice limits their distribution, rain can collapse lairs and low snow years can mean seal pups are born in the open, where they become easy prey for Arctic foxes, several bird species and polar bears. In western Svalbard, changes in sea ice extent and snow cover have led to reproductive failure for ringed seals in some areas. Ice is a must. Both polar bears and ringed seals depend on it.

Pizzlies and Grolars!

Did you know that there is such a thing as a pizzly or grolar??

Grizzly bears in Alaska and Canada are moving north as their environment warms, bringing them into contact with polar bears located on the coastline. Climate change is known for swelling the oceans and fuelling extreme weather, but it may also be causing the curious emergence of a new type of bear, a grizzly-polar hybrid in the Arctic.

For more information about the Pizzly-Grolar, see Wicked Weather Watch resource 'Pizzly-grolar information sheet' available on our website.

For more information on polar bears, visit:

Polar Bears International: www.polarbearsinternational.org/about-polar-bears/essentials

National Geographic: <http://www.ngkids.co.uk/animals/polar-bear-facts>

World Wildlife Fund (WWF): <http://www.wwf.org.uk/wildlife/polar-bears>

