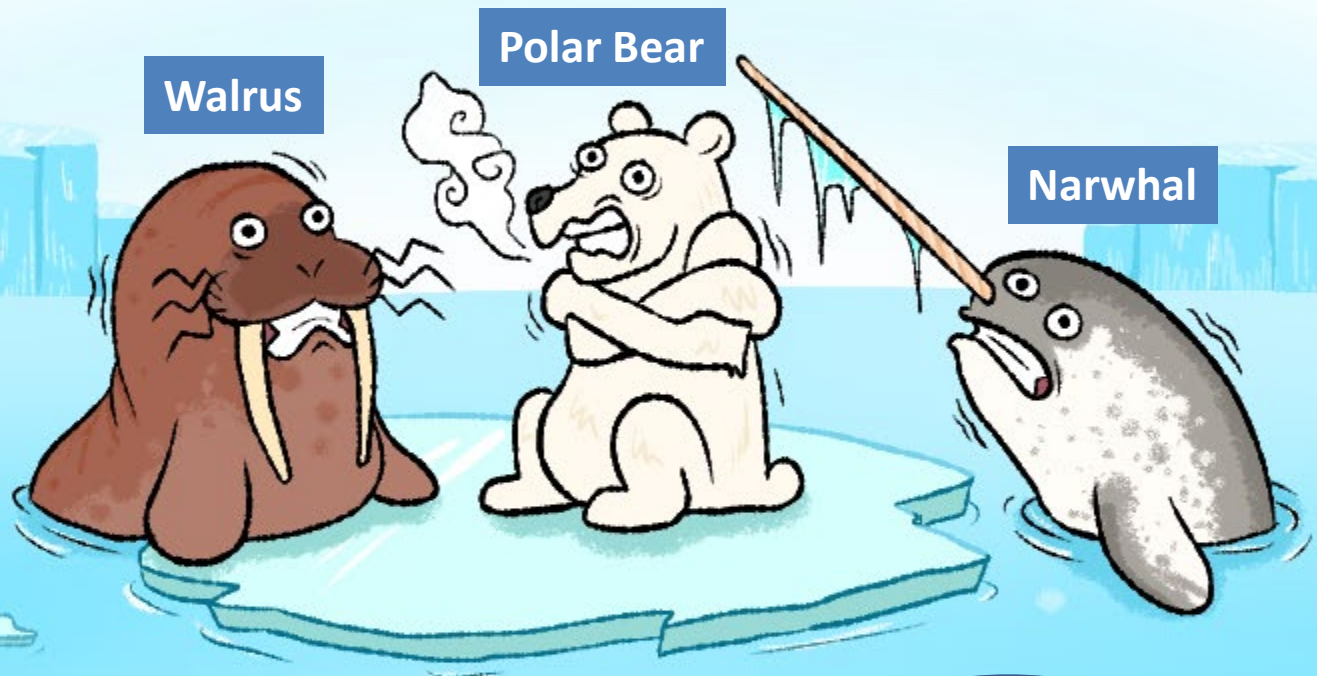


## Arctic Adaptations

**1. a) Extreme Adaptations:** Winter is coming in the Arctic, and temperatures can reach as low as  $-94^{\circ}\text{C}$  ( $-137^{\circ}\text{F}$ )! Brrrrr... On top of that, animals in the arctic face limited space as sea ice continues to melt, and stark competition over scarce resources such as food, mates and shelter. Our marine mammal friends need some seriously extreme adaptations to survive! Match each Arctic animal with one or more adaptations that they possess in order to combat the cold. For help finding answers, and to learn about more arctic and polar species, [click here](#).



Thick  
Blubber  
Layer

Small Ears and  
Tail to Preserve  
Body Heat

Large Tusks  
for Defense  
and Climbing  
onto Ice

Sensitive  
Whiskers for  
Food Finding

Thick  
Camouflaged  
Fur

Can Dive  
over 1 Mile  
(1.6km) Deep

Strong  
Swimmer

## Arctic Adaptations

**1. a) Extreme Adaptations (Cont.):** For each animal on the previous page, pick one adaptation you assigned to it, and give a brief explanation as to how you think it helps that arctic mammal survive in such a harsh environment.

a. Walrus: \_\_\_\_\_

\_\_\_\_\_

b. Polar Bear: \_\_\_\_\_

\_\_\_\_\_

c. Narwhal: \_\_\_\_\_

\_\_\_\_\_

**1. b) Extreme Local Adaptations:** Just because arctic animals have special adaptations to survive one of the harshest environments in the world doesn't mean they don't also have some traits in common with our local marine mammals further South. One of our frequent patients at The Marine Mammal Center, the Northern elephant seal, shares some adaptations with our Arctic friends. From the previous page, choose one adaptation that you think is shared by the Northern elephant seal, and explain why. For some help, check out the [Northern elephant seal](#) page on our website.

a. Northern elephant seal adaptation: \_\_\_\_\_

b. Why might they need this adaptation?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





## Arctic Adaptations

**2. It's What's on the Inside that Counts:** This statement is especially true for many marine mammals, who spend most if not all their lives in cold waters, often diving to frigid depths in search of food. Based on their appearance and distribution, rank the following mammals in terms of blubber thickness (1 being the thinnest, and 4 the thickest).

### Common Dolphin

Found in all tropical and warm-temperate waters



### California Sea Otter

Found off the California Coast



### Northern Elephant Seal

Found eastern and central North-Pacific Ocean



### Bowhead Whale

Found in the Arctic Circle



As a hospital, it is an unfortunate truth that some patients at The Marine Mammal Center pass away, or we may retrieve animals from beaches that have passed away. To better understand why an animal has passed away or how we may prevent this in the future, our staff perform an animal autopsy, also known as a necropsy. A necropsy is a thorough examination of a carcass to determine cause of death. This allows researchers to measure size, weight, and even blubber thickness to determine the body condition of a patient before it passed away.