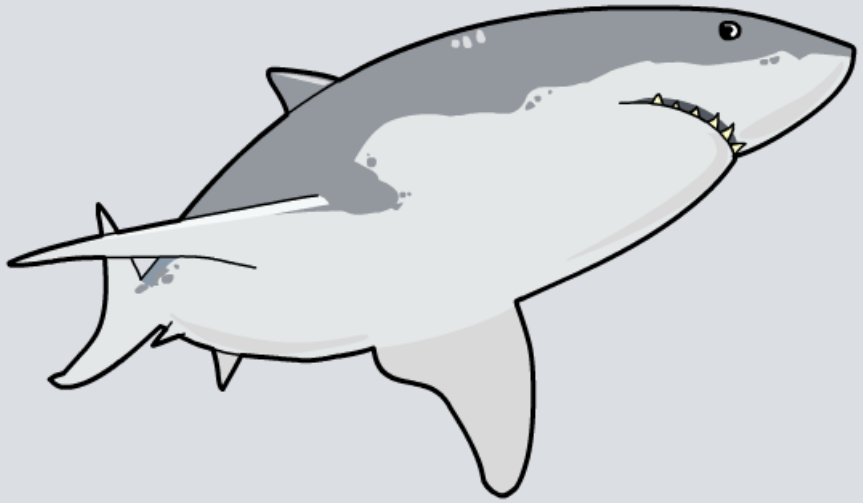
Animal Adaptations



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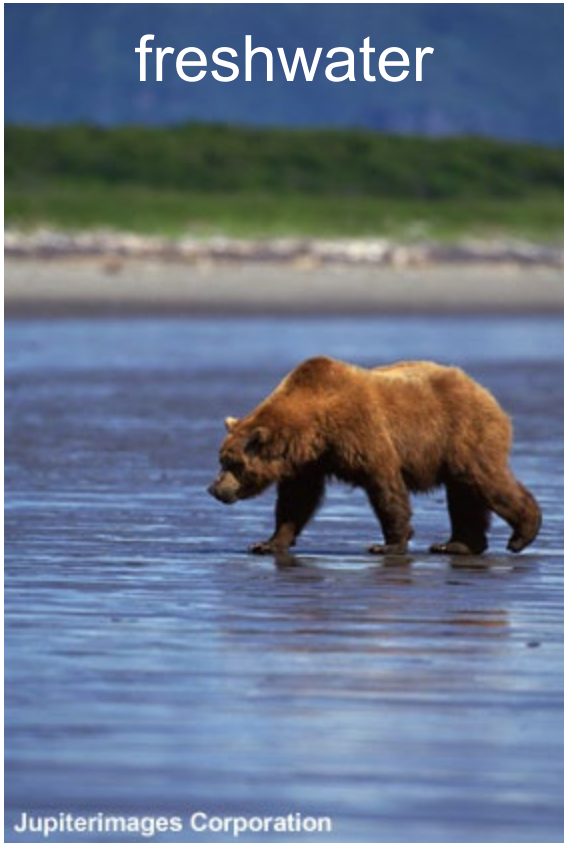
Different types of environment

There are three major types of environment. What are they?

land

freshwater



marine

How do organisms survive in such different environments?

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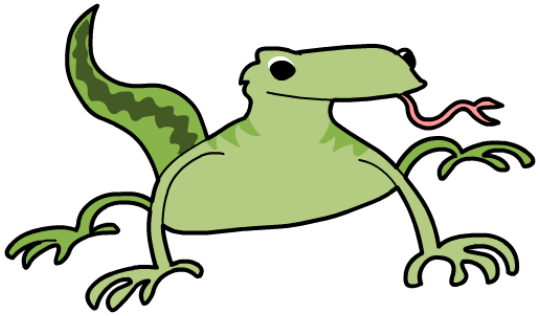
What is adaptation?

All organisms are adapted to life in general, such as having legs for walking, wings for flying or leaves for photosynthesizing. These are **general adaptations**.



Organisms also have **specific adaptations**. These are special features or behaviors that have evolved to make an organism particularly suited to its environmental **niche**.

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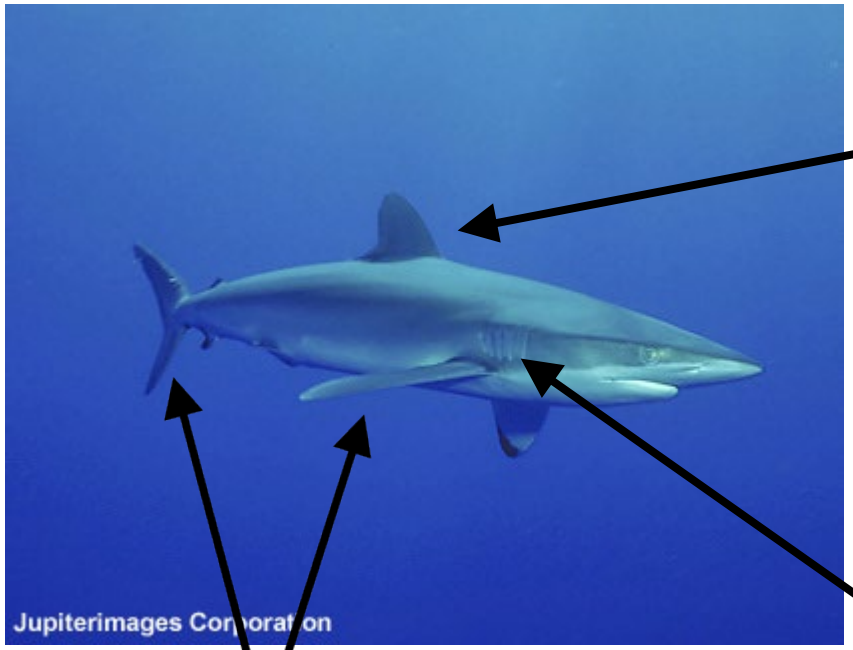
A shark's general adaptations

What are a shark's **general** adaptations to life in an aquatic environment?



streamlined shape to reduce friction when moving through water

gills have a **large surface area** so that oxygen can be extracted from the surrounding water

fins provide stability, power and control

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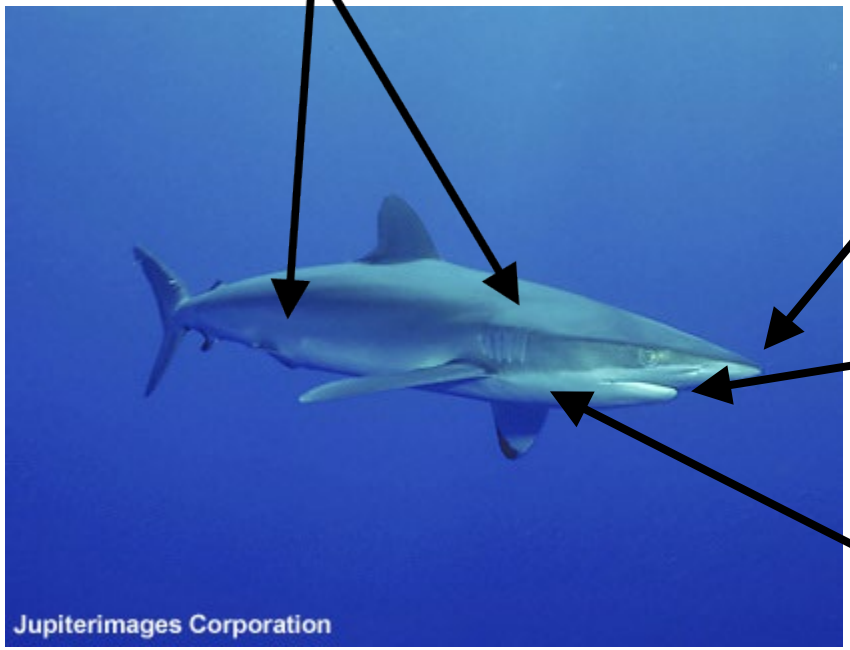
A shark's specific adaptations

What are a shark's **specific** adaptations to life as an aquatic predator?

specialized sense organs can detect the sound, movement and electrical fields of other organisms



highly sensitive sense of smell that can detect drops of blood from miles away

lots of **very sharp teeth** that are constantly replaced

silver coloring underneath acts as camouflage

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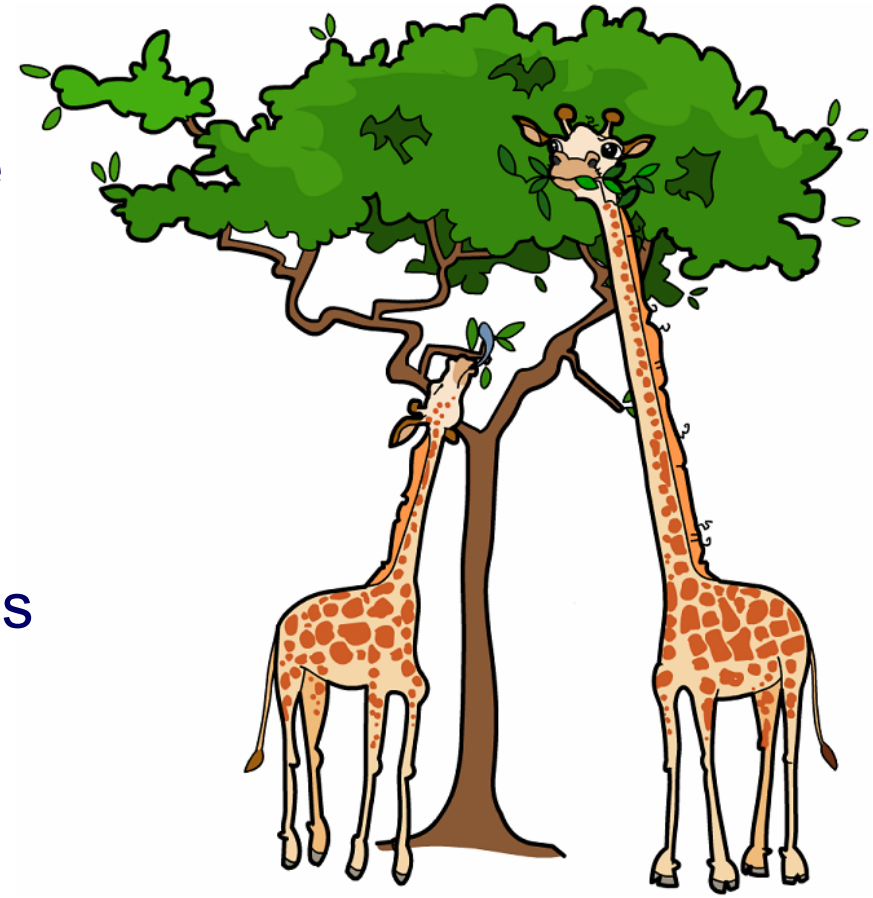
The importance of adaptation

Why is it important that organisms are adapted to their environment?

The better adapted an organism is to its habitat, the more successful it will be when competing for resources such as food and mates.

This increases the organism's chance of survival and so increases its chance of reproducing and passing on its genes.



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True or false?

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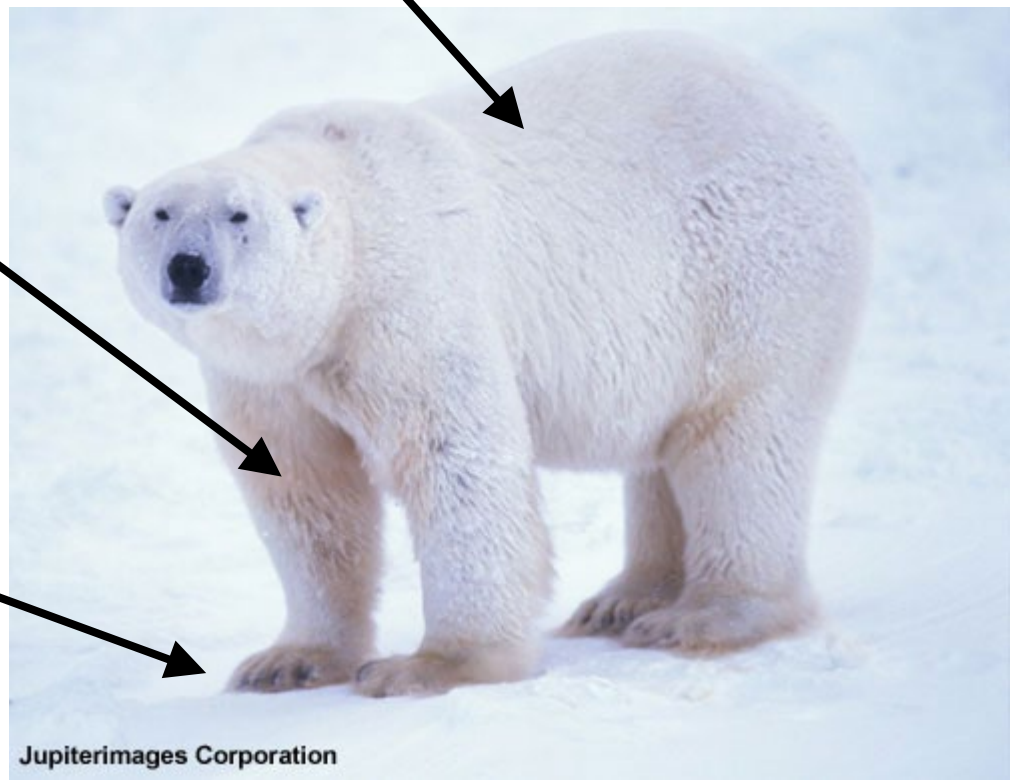
How is a polar bear adapted?

How is a polar bear adapted to its extremely cold climate?

white greasy fur repels water and acts as camouflage

thick fur and **body fat** insulate from the cold

large, wide feet spread the body's weight and act as good paddles and snow shoes



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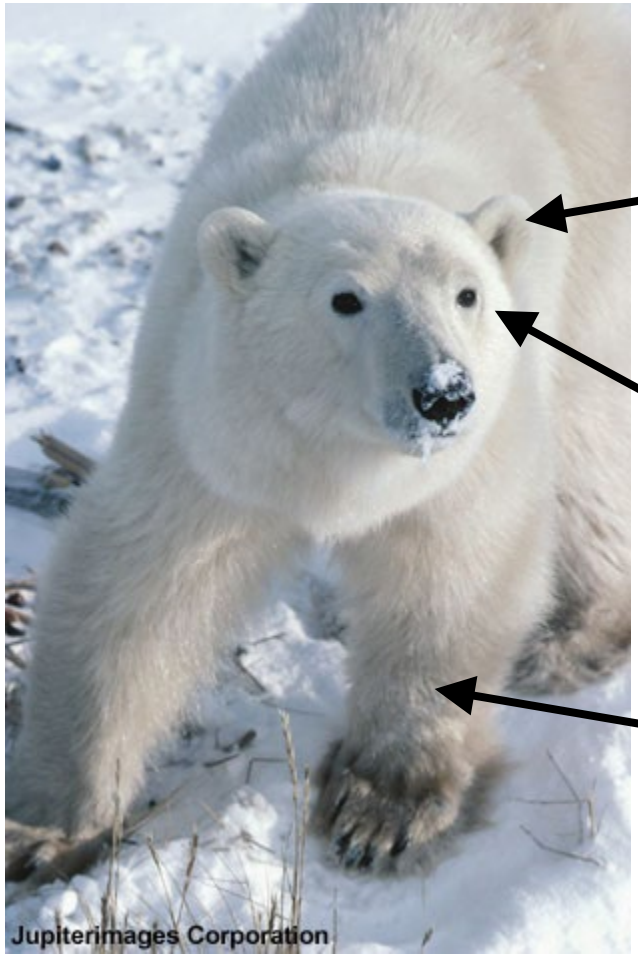
More polar bears adaptations

Other adaptations that polar bears have evolved to cope with conditions in the harsh polar environment include:



small ears and **small body surface area to volume ratio** reduces heat loss

eyes have **brown irises** to reduce the glare from the Sun's reflection

black skin is a good absorber of heat

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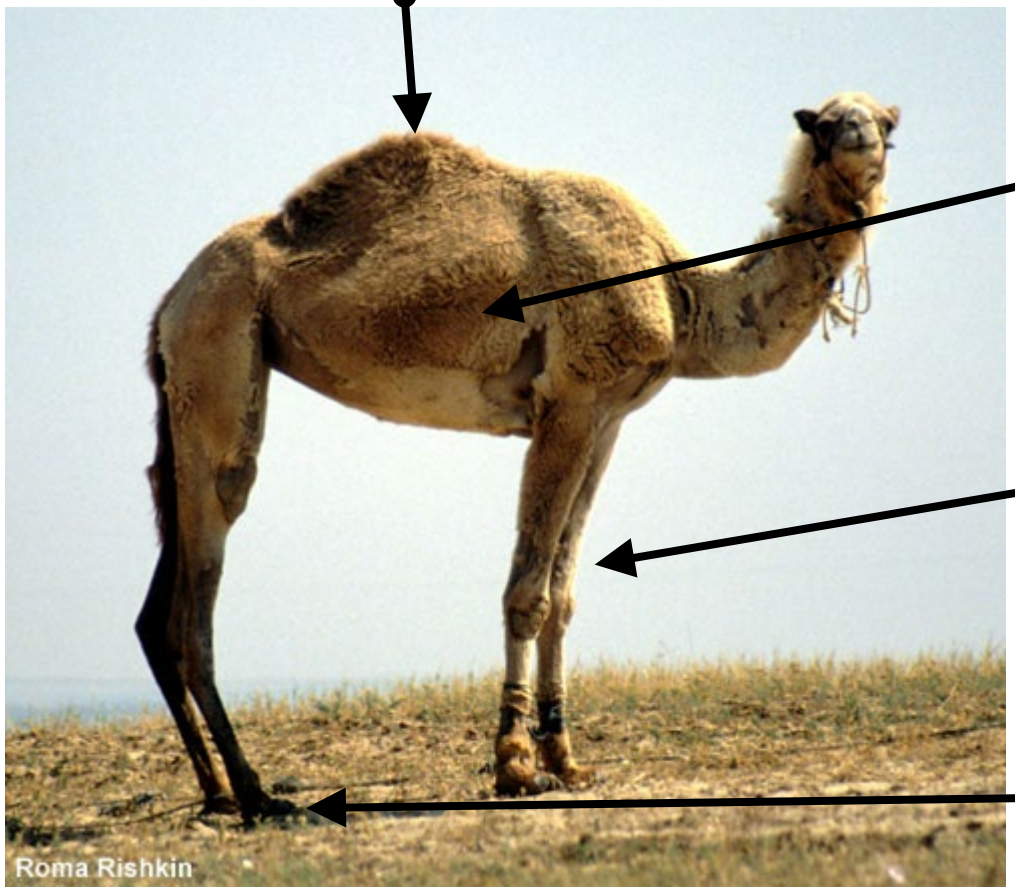
How is a camel adapted?

How is a camel adapted to life in a very hot, dry climate?

fat is stored in the hump to reduce overheating



little water is lost through **sweating** or **urination**

long, thin legs help to increase body surface area and increase heat loss

wide feet spread out body weight on shifting sand

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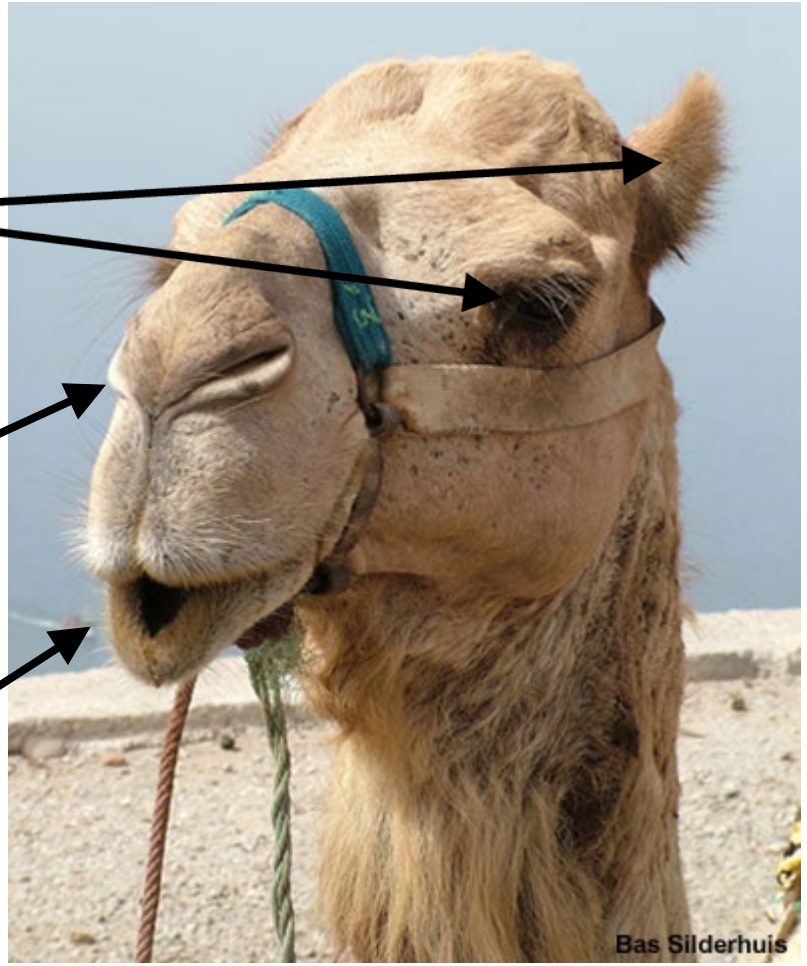
More camel adaptations

What other adaptations have camels evolved to cope with the harsh desert environment?

long eyelashes and **furry ears** prevent sand and dust from getting in

nostrils can be closed for protection during sandstorms

very **varied diet**, ranging from grass and bark to thorns and bones.



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Which adaptation?

What adaptions do these organisms have?

polar bear	fish

camel	cactus

gills increase oxygen uptake

?

C solve

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