

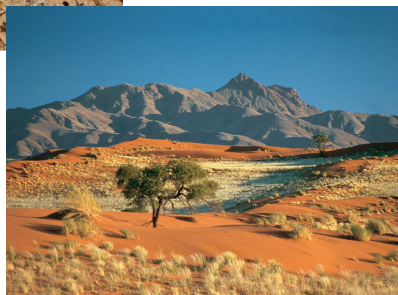
## LO: I know how animals and plants adapt to life in the desert

Think:

What are the environmental conditions in a DESERT? Think in particular about deserts in Africa and Arabia/Asia.

Jun 14-14:11

Based on the pictures, write down conditions in these deserts.



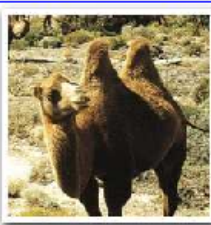






Jun 14-14:11

## environmental conditions DESERT

- lack of water
  - therefore hardly any plants
  - therefore hardly any animals
- can be very hot during the day and cold at night
  - therefore extreme temperature fluctuation
- rocks, sand, hills, windy

Jun 14-14:11

	<p><b>Adaptation:</b> Two rows of long eyelashes</p> <p>Function: Protect against blowing sand and the sun</p>		<p><b>Adaptation:</b> Nostrils can be closed</p> <p>Function: Keep out blowing sand</p>
	<p><b>Adaptation:</b> Fat stored in hump(s)</p> <p>Function: Help it to survive long periods without food and water</p>		<p><b>Adaptation:</b> Thick fur and underwool</p> <p>Function: Provide warmth during cold desert nights and insulation against daytime heat</p>
	<p><b>Adaptation:</b> Thick leathery patches on knees</p> <p>Function: Protect it from getting burn when it kneels on the hot desert sand</p>		<p><b>Adaptation:</b> Long strong legs</p> <p>Function: Help carry heavy loads over long distances and keep its body further away from the hot sand</p>
	<p><b>Adaptation:</b> Broad, flat, leathery pads at the bottom of their hooves</p> <p>Function: Pads spread out when the camel places its feet on the ground thus creating a "snowshoe effect" and preventing the camel from sinking into the sand</p>		

Jun 15-09:33



Camels are good at preventing water loss from their bodies. (1) They begin to sweat only when their body temperature reaches 40°C. (2) Their efficient kidneys produce urine with low water content. (3) Their dung is also very dry - it can be used as fuel as soon as it is excreted.

Jun 15-09:33

Camels have a number of adaptations which help them survive in their desert environment.

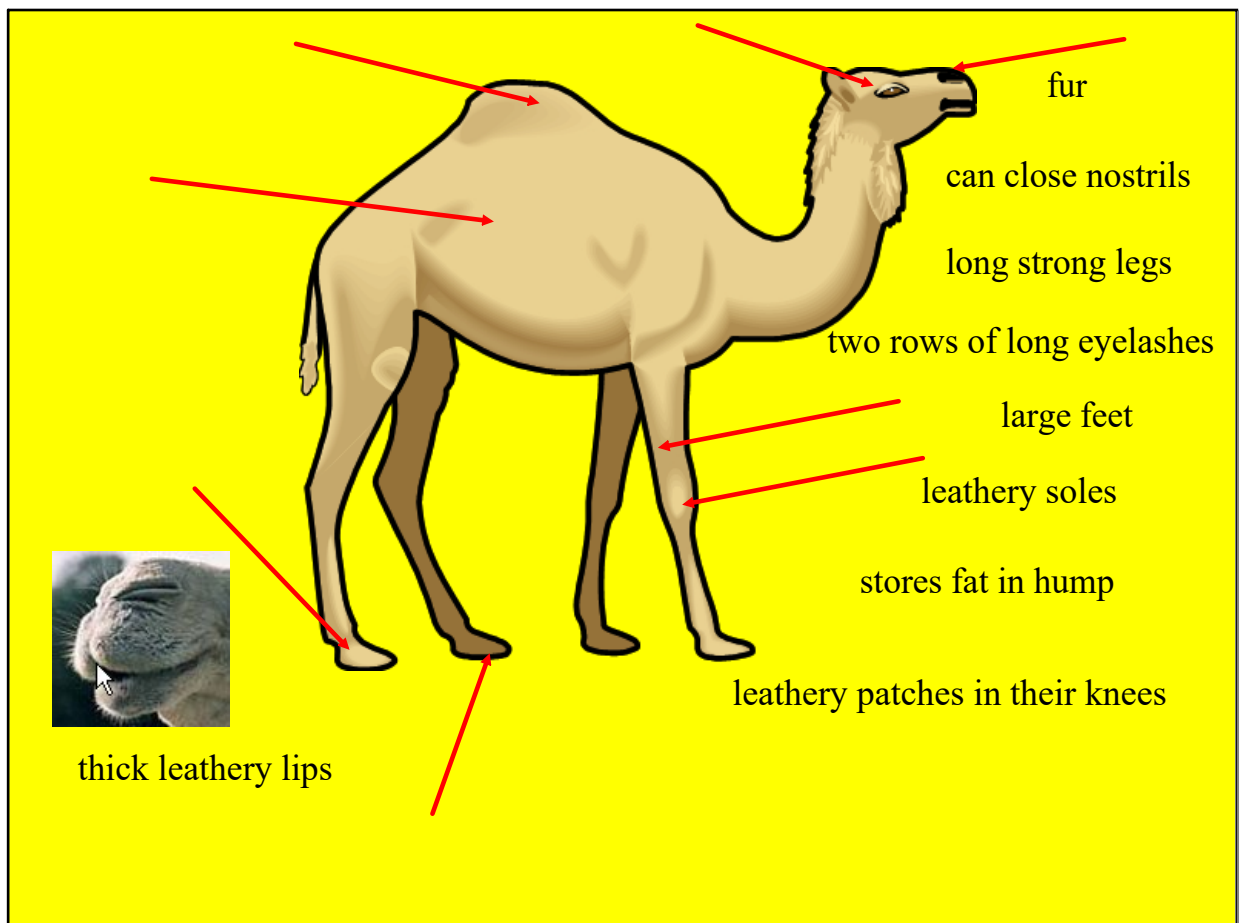
- The most obvious is that camels have a hump (or two if they are bactrian camels) which stores fat, which metabolises for energy. This enables the camel to go without food and water for a long period of time. The hump does *not* store water.
- When they do access water, they can drink up to 46 litres of water in one session.
- Camels have two rows of long eyelashes to help protect them against the desert sand.
- They can close their nostrils, also for the purpose of keeping out sand.
- They also have hair lining the inside of their ears to protect their ears from the sand.
- Their legs are long and strong, and their feet are split hooves with broad pads which splay out over the desert sand for more stability, preventing them from sinking into the sand.
- Their thick, leathery knees do not get burnt by the hot sand when they kneel.
- Camels have thick fur and underwool which acts as insulation against both the hot desert days and the cold nights.
- Camels' lips are thick and leathery, which enables them to eat prickly desert plants without it hurting their mouths.
- A camel's internal temperature can fluctuate with the conditions - this is an advantage because it helps the camel conserve water by not sweating as the external temperature increases.
- Camels absorb water in their blood, and their erythrocytes (a type of blood cell) swell to almost 240% than their normal size without bursting.
- A camel's kidneys can concentrate urine to reduce water loss; in turn their urine will become very syrupy and thick and be extremely salty.
- The colour of their bodies helps them to blend into their environment.

Jun 15-09:35

On the next page, you will see the characteristics of the camel to label your drawing.

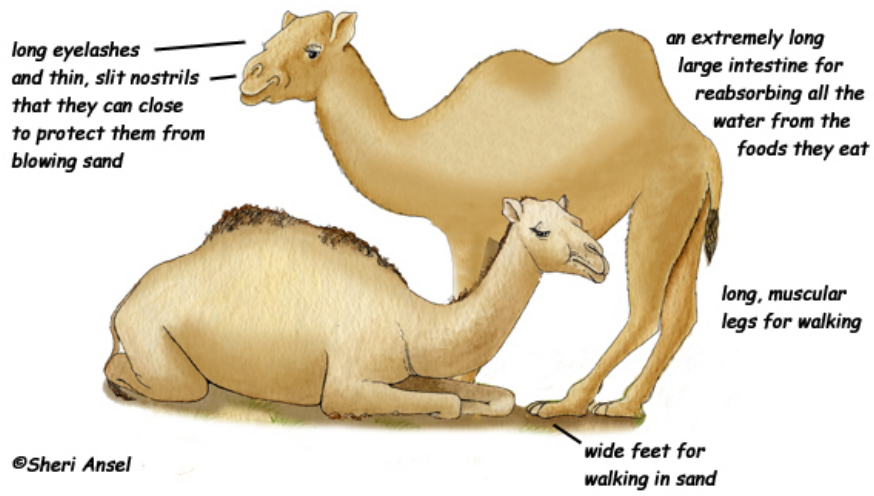
However, you will have to give the reason for the specific adaption. For instance, why do they have two rows of eyelashes?

Jun 15-09:35



Jun 14-14:38

### *Adaptations of the Camel*



Jun 15-09:27