



OWLS (Map Ref 33)



UP, LS, US

Owls belong to a group of birds known as Raptors. Raptors are birds with strong feet (talons) used for seizing prey, sharp talons to maintain grip, a hooked beak used for tearing flesh and excellent vision which they depend on when hunting for food. In general; once a raptor has caught its prey it will not release it from its grasp until the prey item is dead. Raptors do not use their beaks as their primary weapon as their eyes may be damaged by struggling prey. The beak is used to rip the meat when eating. The group of birds known as Raptors includes eagles, hawks, falcons, vultures and owls.

Owls' feet differ to other raptors as they have two toes facing forward and two facing back. This allows owls to hunt for prey in long grasses as they are able to grip prey more easily and catch the prey with a wider spread of toes.

Owls see extremely well over long distances. However, up-close, their vision is not so effective. This is when they utilise the short feathers surrounding the beak which act as sensors for the owl. Raptors possess the best long-range vision than any other animals on Earth. It is believed that it is at least eight times better than humans! Owls also have forward facing eyes like humans which gives them binocular vision, meaning they use both of their eyes simultaneously.

Interestingly, Owls eyes are in a fixed position in their heads since they have very large eyes in proportion to their head. This has meant a lack of 'room' in their skull for eyes muscles to allow for movement of the eyeball. Therefore, Owls have developed a unique ability; by having additional and very flexible neck bones they are able to turn their heads up to 270 degrees both left and right. Some can even turn their heads upside down! All of these movements are independent of their body.

Other interesting facts:

- Owls have uniquely designed feathers which allow for silent flight.
- Owls' ears are able to hear sounds 10 times more faint than humans can hear.
- Owls are able to detect the exact location of prey by the noises it makes. This means they are able to catch food in long grass without ever actually seeing the prey.

Q2

Owls are nocturnal. What are the advantages of being nocturnal for an owl?

SINCE OWLS FLY SILENTLY, HUNTING AT NIGHT MEANS THEY CAN NOT BE SEEN OR HEARD BY THEIR PREY. IT ALSO PROTECTS THEM FROM PREDATORS AS THEY HIDE DURING THE DAY. IT ALSO ALLOWS THEM TO HUNT IN THE COOL OF THE NIGHT RATHER THAN IN THE HEAT OF THE DAY SO THEY SAVE ENERGY.

Birds have got bones which contain air-sacs. This means that birds are often described as having 'hollow bones'. What would be the advantage of having hollow bones?

[A bird weighs 30% less than a mammal of the same size]

IT MAKES THEM LIGHTER FOR FLYING LONG DISTANCES FOR LONG PERIODS OF TIME.

Q3

What would be the advantage of silent flight for an owl?

IT ALLOWS THEM TO APPROACH THEIR PREY WITHOUT BEING HEARD.

Many owl species have a disc of feathers around their face which funnels inwards. What is the advantage of this disc of feathers? Hint: It looks and acts much like a satellite dish.

IT FUNNELS SOUNDS STRAIGHT INTO THEIR EARS WHICH MAKES THEIR HEARING MUCH MORE EFFECTIVE THAN OURS. OWLS ALSO HAVE OFFSET EARS (ONE IS HIGHER THAN THE OTHER) WHICH MEANS THEY CAN PINPOINT THE EXACT LOCATION OF THEIR PREY.

Owls cough up a pellet after eating. This is an elongated wad of fur, bones and feathers. Why do owls produce this pellet?

THEY ARE UNABLE TO DIGEST BONES & FEATHERS.

What type of adaptation is this?

FUNCTIONAL.



A1

Owls have got excellent eyesight

Look around you and find the item the most far away from you. Owls can see 8 times further than that! That means that what we can see 100 metres away from us, owls can see the same thing from a distance of 800 metres!

A2

Can you believe this...? Owls have very large eyes compared to the size of their head. If our eyes were in the same proportion to our head as owls eyes, we would have eyeballs the size of a large grapefruit!

What about this...? Owls eyes are said to be at least 35 times and up to 100 times better than humans' in dim light. Measure a distance of 400 metres. Put a marker at one end (or find a landmark at a distance of 400 metres away), stand at the other end imagine a lit candle at the other end at dusk. We would find it pretty hard to even see the candle. Owls can not only see the candle, but everything that is lit up by the candlelight!