

Designed to be an Osprey



All animals and plants have design features which help them to live in the in their environment. These features are known as adaptations. In animals they include physical features, how they function, or their behaviour.

Ospreys are birds of prey which hunt and catch fish for food. However catching fish is not easy.

Suggest three ways that a bird could have problems trying to catch a fish for its food...

- 1 _____
- 2 _____
- 3 _____

So how do ospreys catch fish?

Ospreys only eat fish, and have several adaptations to catch them. To be successful they must first be able to see the fish, then be able catch the fish in the water, and finally carry it away and eat it.

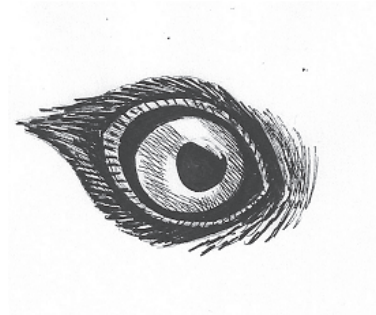
Osprey eyes

Hold this sheet away from your face, how far away can you hold the sheet before you cannot read it? Write this down _____ cm

Now get your friend to take the sheet 15 times farther away. If ospreys could read then they could read the sheet from this distance. Their eyesight is 15 times better than yours. This allows them to hover about 100m above the water and still be able to see the fish below them, but this is far enough so that the fish cannot see the osprey!

Designed to be an Osprey - cont

ACTIVITY Label the drawing of an osprey's eye to explain how it is adapted to catch fish.



EXTRA Ospreys have forward facing eyes like most predators. This gives “stereoscopic” vision. Find out how two forward facing eyes helps them to catch their prey.

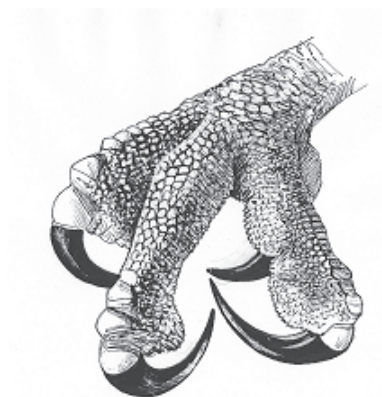
Feet & Legs

Their legs are very long and have few feathers so they do not get wet when plunging feet first into water.

The bottoms of their feet are covered in short spines, which helps them to grip slippery fish and they can snap their razor sharp talons together around a fish in 0.2 of a second.

On each foot the outer front toe can be reversed so that they can grip with two toes forward and two back. This adaptation gives the osprey a very good grip on the fish it catches. This particular adaptation is very unusual, and is known as zygodactyly. A long difficult word which is great for those who play scrabble or if you want to impress someone! Each toe also has a long sharp curved “claw” called a talon.

ACTIVITY Label the drawing of an osprey's foot to explain how it is adapted to catch fish.



Designed to be an Osprey - cont

Beak

Osprey beaks are very strong. They are hooked at the end and have cutting edges.

ACTIVITY; Label the drawing of an osprey's beak to explain how it is adapted to eat fish.



Feathers

Ospreys are covered in feathers, known as plumage. Ospreys have very dense plumage which makes it difficult for water to soak in. Each feather is also quite oily which helps it to keep dry. The osprey is dark on top but pale underneath. Here is a fish eye view of an osprey against the sky.

How does this colouration help the osprey to catch fish?

Many animals have colouration which helps them to blend in with their surroundings. What is this called?

Describe three other animals that have colouration which makes them blend in with their surroundings

1 _____

2 _____

3 _____

Designed to be an Osprey - cont

Going fishing

Watch a video of ospreys catching a fish.

Pause the action if you can to see exactly how it does the following

- Hovering to see the fish
- The plunge to catch the fish (note the wing and leg positions)
- Catching the fish
- Leaving the water with the fish
- Flying with the fish (fish held pointing forwards-why?)

