

Osprey Food – Ideas For Science Teachers

Ospreys eat only fish, nothing else. Here are some suggestions for lessons to answer some food related questions!

1. What is the nutritional content of a fishy diet?

This lesson could be based on one or more of the following...

- Book research(nutritional data or text based)
- IT based research
- Practical lesson using food tests

To test fish, a cheap easily obtainable fish (In the UK, mackerel would be good), could be cooked and put into a food processor with a bit of water to make a fish 'broth'. This could be subjected to standard school science lab food tests, for example, starch test using iodine, sugar (reducing/non reducing sugar) test using Benedict's reagent, protein test using Biuret reagent and a fat test using the standard ethanol test .

2. What other things do the Gambian people eat?

Ospreys spend the winter in West Africa in countries like The Gambia and Senegal.

The people of those countries eat a lot of fish but in addition they eat vegetables like aubergines, tomatoes, peppers, rice and some pulses such as chick peas.

Pupils could food test some of these foods (rice and chick peas would be very easy) to find out which nutrients these foods contain.(See food tests above)

A typical inland village in The Gambia.



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3. Problems of eating a fish based diet?

This raises some interesting questions about a diet based on fish...

**If humans ate an entirely fish based diet, what other nutrients would they be lacking?
What is the consequence of those missing nutrients?**

Humans eating an entirely fish diet would experience health consequences, as a lack of some of the essential nutrients can cause "deficiency diseases"

Pupils could research the nutritional content of fish this and look at any important nutrients which are missing - one possible example is scurvy caused by lack of Vitamin C.

This has an interesting historical link when sailors on long voyages suffered from scurvy.

4. From Chick to Adult size in six weeks!"

Ospreys are clearly adapted to eat a fish diet. When the parent ospreys catch the fish, the parent eats the head and picks off small pieces of the body of the fish for the chicks. Once hatched osprey chicks grow incredibly quickly, reaching adult size in around six weeks.

What does a chick need to grow ? Fish provides a good source of energy, and has a lot of protein (muscle) and Calcium (bones).

How much fish would you need to eat to supply your daily energy needs?:

Find out your energy needs per day and then work out how much fish would provide this!



Osprey Juveniles