Rutland Water Food Web

Do you know your feeding relationship words?

Producers

1. What is meant by the word producer? _____

_____

2. Name 3 producers shown in the Rutland Water food web. _____

Herbivores

3. What is a meant by the word herbivore? _____
4. Name 3 herbivores shown in the Rutland Water food web. _____

Carnivore

5. What is meant by the word a carnivore? _____
6. Name 3 carnivores in the Rutland Water food web. _____

_____

Making a food chain?

A food chain shows is the order of organism through which food energy passes . Food chains always begin with a producer. Arrows show the direction of the energy flow from the producer to other organisms in turn.

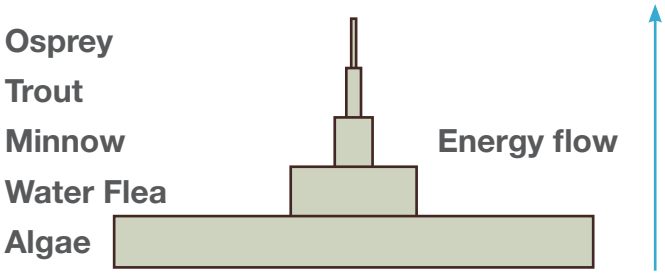
Algae →	**Water Flea** →	**Minnow** →	**Trout** →	**Osprey**
Producer	Primary Consumer (Herbivore)	Secondary Consumer (Carnivore)	Tertiary Consumer (Carnivore)	Quaternary Consumer (Carnivore)

The “feeding level” is shown under the food chain. This is known as a trophic level.

7. Draw 3 more food chains you can find in the Rutland Water food web.
   For each food chain label the “trophic levels” underneath.

Pyramids of number

This is a more useful way of showing the energy flow through a food chain. Each block represents the number of organisms in each trophic level in a food chain.



World Osprey Week is organised by the Leicestershire and Rutland Wildlife Trust as part of the Osprey Flyways Project.

Rutland Water Food Web - cont.

8. Draw and label a food pyramid for each of your food chains in Q7.

Pyramids of biomass

Pyramids of number have a problem. The size of the plants and animals vary.

One way around this is to work out the total weight of the organisms in each trophic level. To do this scientists take samples from the habitat and measure the weight of the species. They use this to work out the total mass of each of the species of organisms in the whole habitat. This weight of living organisms is known as **biomass**.

This weight of each level known as "**biomass**"

9. Can you suggest why it is difficult to find the biomass of organisms in a habitat **accurately**?

10. How could you ensure your samples of organisms for the biomass was **reliable**?

The problem of Water

The amount or water in living organisms varies. To be even more useful the biomass figures should not include water. This weight is called **Dry Mass**.

11. If you had a sample of water plants, explain how you could find its **dry mass**.

12. Can you suggest why it is not ethical to sample a whole ecosystem and find the dry mass of the plants and animals.