Relationships

Introduction

In a habitat living organisms interact with each other. This can be because of food, living space, or other resources. These relationships can be simplified into a code of which shows the result of the relationship of the organisms in the habitat.

Relationship Code	What it means
+ +	Both organisms benefit from the relationship. Biologists use the terms **mutualism**, **symbiosis**, and **commensalism** for these sorts of ++ relationships.
+ -	One organism gains and the other loses from the relationship. Examples include **predator** and **prey**, **host** and **parasite**, and **herbivore** and **plant**
+ O	One organism gains but this has little effect on the other in the relationship. A good example is a **scavenger** feeding on dead animals, or a **detritivore** feeding on deal plant material such as leaves.
O O	In this association neither organism gains or loses .The two organism's may live in the same habitat but because they occupy different **niches** there is no gain or loss by either of them. This may be due to being active at different times of the day, or the way they feed mean that there is no **competition** or conflict.
- -	Both organisms lose from the association. Usually they compete for resources or food which means both are affected by the presence of each other in the habitat, and so have a negative effect on each other.

What do the words mean?

In the table above are many bold and underlined words.
List and write down what each word means.

Relationships cont.

Work out the relationship code

At Rutland water many living organisms occupy the reservoir habitats. Below are 20 descriptions. For each statement write down the names of TWO organisms and then state if it is a ++, +-, +o, oo, or - - relationship. You may need a bit of extra research on the organisms to make a decision!

1. Reed warblers use spider's webs to build their nests in the reed beds.

2. Egyptian geese build their nests on the nest poles which have been set up for the ospreys to nest on.

3. Avocets and black headed gulls are birds which both nest on the same shingle banks on the reserve.

4. Bitterns use reeds to build their nests at the edge of Rutland Water.

5. Cuckoos do not build their own nests. Female cuckoos lay their eggs in reed warblers nests, the cuckoo chick throws out the reed warbler eggs and is then fed by the adult reed warblers until it is ready to leave the nest.

6. Ladybirds hibernate in winter in the stems of dead reed mace and rushes.

7. Water snails have bacteria living in their gut which help them to break down food which would otherwise be indigestible. The bacteria are protected and are provided with food in the snail gut.

8. Bees visit water lily flowers and collect nectar as their food. The water lily flowers are pollinated when the bees visit them.

9. Ospreys catch and feed on trout found in Rutland Water.

10. Jackdaws use the nest holes made in tree trunks by green woodpeckers

Relationships cont.

Work out the relationship code

11. Dragon flies catch midges in wetlands and above the water at Rutland Water.

12. Flat flies live under the feathers of swallows and feed on the blood of the swallow.

13. Bats feed on flying insects by night and house martins feed on flying insects by day over the water.

14. Earth worms feed on the dead leaves which fall off the deciduous trees in autumn.

15. Newt eggs can be carried on the legs of wading birds to other parts of Rutland Water.

16. Algae coat the surface of the shells of water snails, giving them a green colour. Algae have no way of moving except by floating in the water.

17. Curlews are long beaked wading birds. Ringed plover are short beaked wading birds. Both use their beaks to probe for their food in the mud at the edge of Rutland Water.

18. Red kites feed on dead rabbits at the side of the road near to Rutland Water.

19. Lichens are found growing on the branches and trunks of trees around Rutland Water. A lichen is made of two living organism an alga which makes food by photosynthesis, and a fungus which gives the structure and stores food.

20. Deer graze grass in the meadows around Rutland Water.