



Food web functional groups

Age: 7-14

Topic: Biodiversity

Time: 30 minutes



What should learners already know?

- Organisms in an ecosystem are linked together by foodwebs.
- An ecosystem is a biological community.

What equipment will I need?

- Bibs of four colours
- Cones
- An area of school ground that children are able to run across



Did you know:
These functional groupings are common to ecosystems around the world.

How will learners explore this?

1. Designate a 'den' at one end of the space and a 'target' at the other end. Distribute a number of cones between the 'den' and 'target'; explain to children that these are plants, the producers.
2. Allocate 1/4 of pupils to be 'carnivores' with a colour bib. The other 3/4 of students are 'herbivores'.
3. Start the game! Herbivores start at the 'target' point, while the 'carnivores' wait in the 'den'. When you shout 'go', herbivores should try to run back to the den, while collecting cones to eat. Carnivores should try to catch the herbivores, at which point the herbivores get 'stuck in mud' (eaten).
4. Re-play this game multiple times, introducing new functional groups: Detritivores (2nd colour bib) – can bring any 'stuck' herbivores back to the den, Omnivores (3rd colour bib) – can tag herbivores or collect cones (can eat plants or animals).
5. Extension: vary the proportions of each group as you re-play this game to introduce the concept of trophic cascade.

How can we show the learning?

- Reinforce vocabulary learning by asking children which groups eat plants, other animals, or dead animals.
- Introduce children to the concept of trophic cascade by encouraging them to think about why it is important to have a balance between functional groups in an ecosystem.
- What happened when there were lots of carnivores in the game? All the herbivores were eaten! What happened when there were lots of herbivores in the game? All the plants were eaten!
- Why is that an issue? Because if one type of food is depleted, the animals which eat it will go hungry! Explain to children that this can lead to extinction of certain species and trophic cascade.



Extension:

Encourage children to think of examples of these functional groups in school grounds!

- Carnivore - Fox
- Herbivore - Caterpillar
- Omnivore - Starling
- Detritivore - Earthworm

