



Habitats and Vegetation

Independence in food webs

Age: 7-14

Topic: Biodiversity

Time: 1 hour



Learning through Landscapes

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What should learners already know?

- Animals and plants are interconnected in the ecosystems they live in.

What equipment will I need?

- A ball of string
- An open area
- Colourful chalk

How will learners explore this?

1. Start by taking children on a walk around school grounds. Ask each child to pick a local organism. Challenge children by asking them to think of plants, invertebrates and vertebrates when they choose.
2. Gather the group into a circle and tell the class that you will be building a school grounds food web.
3. Ask all children who thought of producers (plants) to raise their hand. Starting with the string end, pass the ball of string between the children with raised hands, asking them to hold the string tightly.
4. Next, ask the children who thought of primary consumers (herbivores) to raise their hands. Continue the same process with secondary consumers (carnivores) until every child is holding the string.
5. Extension: you may want to challenge your group by asking if any children thought of top predators, detritivores or scavengers.
6. This is your food web, and demonstrates how all living things in an ecosystem are interconnected.
7. Explain to the children that all the plants have been sprayed with herbicides. All the children representing plants should start to shake the string. All other children who feel the string shaking should also shake the string. This demonstrates how damage to one part of a food chain can cause damage throughout.

How can we show the learning?

- This activity is designed to help children visualise the complex food webs around them, as well as what can happen when food webs are perturbed.
- Ask children what would happen if all the plants disappeared? This would mean that other animals in the food web would have nothing to eat, so would die. This could cause a domino effect up the food chain. This is why it is important to conserve an animal's whole ecosystem if we want to help conserve the animal.
- Challenge children by asking them how energy flows in a food web. When an animal eats another animal, they gain energy. A food web describes how energy from producers flows to primary consumers and onto secondary consumers. Some energy is lost at each stage, as the organisms need energy to grow and move, the same exact way we need energy from food.
- A great way to test the learning is with a follow-on activity. Ask children to split into smaller groups and draw a school grounds food web using chalk on a tarmac surface (or pens and pieces of A3 paper).
- One child can draw a series of large circles (one for each member of the group). Each child should then draw the organism they chose in their circle.
- As a group, the children should then work out in which direction energy flows between all the organisms they have drawn. They can do this by drawing arrows between organisms and the animals which eat them, starting with the plants.
- Encourage children to go around and look at all the different food chains which have been drawn.
- Make sure to take pictures to evidence the learning.



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