5.2 Practical activities

1 Woolly web

Note: This is a whole-class activity.

Purpose

To create a food web using students connected by pieces of wool.

Materials

- information about feeding relationships in a particular habitat
- small balls of wool or string (start with five for each student)
- card to make labels
- marker pen
- paper clips (one per student)

Procedure

1. Each student selects an organism from the list of organisms found in the habitat.
2. Using the card and marker pen, create a name label so that you can be identified. Attach it using a paper clip.
3. Using the information about feeding relationships, identify the organisms that you will use as a source of food.
4. Start with the producer organisms. Connect the producers to the herbivores that eat them, extending the wool from the producer's right hand to the herbivore's left hand. The producer organisms and the herbivore hold opposite ends of a piece of wool. The wool represents an arrow in the food web.
5. The carnivores then connect to the herbivores they eat, by holding opposite ends of a piece of wool (wool from the right hand of the herbivore should extend to the left hand of the carnivore).
6. Any carnivores that eat other carnivores are then connected until all the feeding relationships are created by pieces of wool. The wool always goes from the right hand of the organism being eaten to the left hand of the predator.
7. Identify one organism that will be eaten—the prey. The student representing that organism gently pulls on one piece of wool so that the energy moves along the food chain from the prey to the predator. The predator then pulls on all of his/her strings so that the energy moves to the next level. Continue in this way until the energy reaches the consumers at the ends of all the food chains.
8. Repeat the exercise, starting with organisms at different levels in the food web.

Results

Observe the effect on other parts of the food web, of the changes you have made.

Discussion

1. **Describe** the effect of a change on the levels of a food web above it.
2. **Describe** the effect of a change on the levels of a food web below it.
3. **Propose** what could happen at higher levels in the food web if an organism disappeared from the habitat.
4. **Identify** any effect the organism's disappearance had on lower levels of the food web.
5. **Explain** why it is an advantage for organisms to have a variety of food sources.
6. **Identify** any of the higher-order consumers that would be left with no food source if one of the first-order consumers in your food web was to disappear from the area.
7. **Deduce** what will happen to your food web if a producer organism is removed from the area.