

Lesson Plan - Food Chains

Grade Level: Grade 4

Learning Objectives:

- to learn about different food chains and roles in a food chain
- to discover the role of the maple tree in a food chain
- through the use of concrete materials, have a chance to discover the different layers in a food chain pyramid

Expectations: Life Systems - Habitats and Communities

- demonstrate an understanding of a food chain as a system in which energy from the sun is transferred eventually to animals, construct food chains of different plant and animal species (e.g. carrot -rabbit-fox), and classify animals as omnivore, carnivore, herbivore
- construct food chains that include different plant and animal species and humans
- classify organisms according to their role in a food chain (e.g. producer, consumer)

Materials:

- paper labels, blocks

Procedure/activities:

1. Gather the students together and create a visual demonstration of a food chain pyramid using paper labels taped to blocks
2. Give them a bit of an explanation about food chains. Please refer to the attached information on [Food Chains](#) from the OMSPA Teacher handbook
3. Lay down layers of blocks labelled producers, first-order consumers, second-order consumers and so on. As you add layers, ask students what plants and animals the blocks might represent in various ecosystems
4. Hypothesise as to what might happen to a food chain pyramid if maple trees or animals species became extinct due to human interruptions such as clear cutting or poor maple sugar bush management.
5. After they have had some time to hypothesise, touch on the fact that plants ultimately support all life forms of animal life cycle including people, whether directly or indirectly. Explain that most people are omnivore, which means that they eat both plants and animals in some form. Every animal, including people, either eats plants directly or depends for food from other species which in turn depend on plants
6. Ask the students to work alone or in groups to analyse where their food comes from. Every food should be traced back to a plant.
7. As each item is examined, ask the students to create a flow diagram or chain which shows the major sources of each food - from the product they eat all the way back to the plant origin. (i.e. Me-maple syrup-sap-tree-soil)
8. Use the following question as the basis for discussion - What are some of the things you have learned from this activity? Have them respond in their workbooks
9. After students have described things they have learned, encourage them to make two generalisations about plants and animals: 1) all animals, including people and wildlife need food and 2) all animals, including people and wildlife, depend upon plants for food. (The decay of animal life after death into nutrients in the soil provides sustenance to plants as well.)

Assessment:

- Assess participation in classroom discussion
- Assess their response to question mentioned above

Extension Activities:

- have the students choose a food chain and draw a picture of each of the plants/animals in the food chains

Food Chains

Whether in a maple bush, desert, or meadow, plants and animals live and interact within interdependent communities. These communities have food chain pyramids consisting of producers and consumers. Plants are the producers because they make their own food. Plants are the foundation of the food pyramid. First-order consumers eat producers. Second-order consumers eat first-order consumers and so on.

When acts of nature, or humans kill off entire species of plants, the foundation upon which all life exists is threatened. For example, the rainforests of the tropical areas represent one of these basic level producers. If rainforests are destroyed, all of the consumers at subsequent levels are affected. Another example is the Asian Long Horn Beetle and its threat to Maple Bush's which is similar to Dutch elm disease.