



LESSON SUMMARY

Through interactive activities, students will come to understand the importance of trees and the inter-connectedness of species contained within the forest food web.

Activity Information

Grade Level: Junior

Estimated Duration: 45 minutes – 1 hour

Materials: Colored Card Stock, Food web cards, String, Scissors, Tape, Chart Paper, Markers

Setting: Outdoors

Key Vocabulary: Producer, Carnivore, Herbivore, Omnivore, Decomposer, Food Web

Curriculum Connections: Grade 4 Science and Technology

Specific Expectations

- Understanding Life Systems: Habitats and Communities



Teacher Background

In this series of activities, students will direct their own learning, surrounding the topic of food webs. Students will learn about the inter-connected relationships in the natural world around them. At the end of these series of activities, students will come to understand the reciprocal roles that producers and decomposers have on herbivores, omnivores and carnivores, as well as be able to use and incorporate these words effectively in following lessons.

Through exploration and trial and error, students will understand that these relationships have a delicate balance and that they cannot exist without the presence of one another.

These activities are designed to be led with minimal teacher instruction, and through prompts and cues, students will be able to understand and identify the relationships contained within a food web in the world around them.

Teacher Preparation

Before beginning the first activity, the teacher will need to cut out card stock of various colors, representing the roles and relationships found within a food web.

- Producer = Yellow
- Decomposer = Brown
- Herbivore = Green
- Omnivore = Orange
- Carnivore = Red

The teacher will lead the students in a series of activities outside, dependent on these cards. The number of cards will vary depending on the class size. For this activity, use the following chart to determine the number of cards you will need of each color:

Role	% of cards	30 students
Producer	70%	21 Yellow Cards
Decomposer	5%	2 Brown Cards
Herbivore	10%	3 Green Cards
Omnivore	10%	2 Orange Cards
Carnivore	5%	2 Red Cards

After discussion, the teacher will need to review the roles of the above in detail before explaining the rules of the activity. Roles are listed in the chart below:

Role	Chase	Chased By
Producer	No-one	Herbivores Omnivores Decomposers
Decomposer	Everyone	No-one
Herbivore	Producers	Omnivores Carnivores Decomposers
Omnivore	Producers Herbivores Carnivores	Carnivores Decomposers
Carnivore	Herbivores Omnivores	Decomposers

After these roles are discussed, the teacher must distribute the cards and explain the rules.

Students will run in an open space and try and avoid being caught, while collecting as many cards as their role would consume. In this game, the teacher may take the role of the sun, to enhance that the sun exists to give everything life. The teacher may wish to photocopy extra cards to give students who have been caught an additional go – in later rounds this would provide the teacher with a good opportunity to create a disproportional balance between the numbers of cards distributed (e.g. what happens when the number of carnivores are increased or producers are decreased). This warm up activity should last between 10-15 minutes.

Before beginning the second activity, the teacher must print off various cards representing the animals chosen to represent their forests food web. The teacher will need to have string, tape, scissors, chart paper and markers handy to complete this activity. The teacher will arrange the class in a circle formation, and facilitate a discussion on what comes to mind when thinking about a forest. After this, the teacher will distribute one card per student, asking them to lay it face up. When students are able to see the connectedness between the relationships contained within the circle, the teacher will connect the two students' cards with string and tape; later creating a complex food web.

Activity One

Step 1

- Students will be taken outside to an area where they have room to run. Here, the teacher will lead a discussion on the various relationships and roles in an ecosystem: producers, decomposers, herbivores, omnivores and carnivores. Prompts may be needed to guide this discussion.
- Students will each be given one card (see above table for percentages and colors regarding each role), while the teacher will remain in the centre of the area taking on the role of the sun.

Step 2

- Students will try and collect cards and avoid coming in contact with others, determined by the card they were given (e.g. decomposers will try and collect every card and have no one to avoid).
 - At the end of this round, the teacher will facilitate a discussion on the importance of there being more yellow cards than any other card (in an ecosystem, there are more producers than decomposers, herbivores, omnivores and carnivores).
 - Later, at the teachers discretion, they may chose to cut out extra cards, allowing for students to be "brought back to life" after their card has been taken – giving the teacher an opportunity to alter the balance and discuss the implications of this on survival.

Activity Two

Step 1

- Get ideas of what students associate with the term forest by jotting their responses down on chart paper.
- Once students give you their responses, ask them how these they interact with one another (e.g. the birds build nests in the trees). As students respond, draw lines going from one key word to the other.
 - As the diagram begins to evolve into a web shape, introduce the concept of a food web.

Step 2

- Have the students look around their circle to try and determine which cards they need to survive. As students discover these connections, cut off pieces of string, taping each card together.
 - Do this until every card has been connected to another card.

Step 3

- The teacher will take away or cut the strings connecting a pair of cards in the food web. Have a discussion on the implications this has on others in the forest.

Extension

After these activities have been run, for further reinforcement, provide the students with a list of things in the forest and have them create their own food web, as well as asking them to label if they are producers, decomposers, herbivores, omnivores or carnivores.

An area for further study would be the integration of key terms such as primary producers/consumers, secondary consumers and tertiary consumers.

Curriculum Connections: Grade 4 Science and Technology

Specific Expectations

- Understanding Life Systems: Habitats and Communities

Forest Food Web Cards

Root



Mouse



Hawk



Chickadee



Leaf



Rabbit



Forest Food Web Cards

Owl



Seed



Fox



Bear

