

# Live Food Web

## TEACHER DIRECTIONS

**Grades:** 3-5

**Time:** 10 minutes at least (can last as long as you want depending on how much you develop the activity)

**Materials:** At least 22 Index Cards (dependent on the number of students in class), 22 pieces of Yarn long enough to hang card around his/her neck, a ball of yarn, hole puncher, and markers

**Lesson Objective:** The student will understand how interrelated food webs are and see how populations affect other populations.

### Teacher Directions:

1. Write the names of various plants and animals on index cards. For the younger grades you may use the list below, for the older grades allow students to construct their own array. Make sure students include the sun, plants, plant eaters, and flesh eaters in the array.  
*Sun, grasshopper, robin, grass, berry bush, hawk, quail, dandelion, mouse, worm, rabbit, cow, flea, meadowlark, owl, wheat, tick, fox, weeds coyote, mushrooms, microscopic bacteria*
2. Punch holes in each card and give each participant a card and a piece of string to hang the card around his/her neck.
3. Students should sit in a large circle and have their card so that everyone may see their "organism" type. Have each individual "organism" identify energy (or food) sources. Begin the ball of yarn at any organism. As each energy source is identified, pass the ball of yarn between the two.  
*For example: One student is a cow and one is the grass. The cow will take the ball of yarn, hold onto one end of the string and pass the rest of the ball to the grass. The grass will hold onto the yarn and pass the rest of the ball to "what it eats," in this case, the sun. **Be sure that the sun is connected to all the plants.** Once the string gets to the sun, cut it off, and start again in another place.*
4. Continue building the web, making the relationships as complex as time and numbers of participants allow. Define terms such as herbivore, carnivore, producer, decomposer, consumer, etc and include them in your web. Students may be in as many chains as you have time for; they do not have to be in all the chains.
5. Discuss the nature and complexity of the food web that is formed. Note that it is not as complete or complex as most natural food webs, but that it illustrates how living things are dependent upon one another. Biologists feel that more complex food webs are more stable than simple ones.
6. After discussing the food web, ask the students what would happen if a species were removed from the web. **Tell the students they will need to sit very still for this activity.** Have a student pull on the strings they hold; anyone who feels a tug is directly affected by that organism. Those "organisms" affected directly could then pull on their strings and more organisms will be

affected. Have many different students pull their strings. When the “Sun” pulls in its string, everyone should be affected.

7. Now, have some students drop their string to pretend they have become extinct and see who is affected. Have students tell you if certain populations will grow or decline.
8. Discuss what would happen if all of the predators were removed. Some species might exhaust their food supply and starve, but others will continue to reproduce only until the food supply becomes limiting or their interactions limit population size.

**Closure:** Review everything with students telling them that this is the way a food web works. They may throw away their large yarn pieces; however return the index card with yarn to make necklace.

**Assessment:** This activity could be assessed by participation, as well as completion of the lab worksheet.

# Live Food Web Lab

## STUDENT WORKSHEET

**Learning Goal:** Today, I will understand how interrelated food webs are and see how populations affect other populations.

**Directions:** You will be a part of a **LIVE** food web today.

1. To begin, you will receive your organism name; put the “organism necklace” around your neck.
2. Next, create a large circle in the middle of the classroom with the rest of the ecosystem.
3. We will begin with one organism who will have to think about “what it eats,” that organism will then hold onto one piece of the yarn roll, then roll the ball of yarn to their food source. Each organism should do this until the ball gets to the ultimate source of energy the \_\_\_\_\_?
4. We will begin discussing what role our organisms play in the ecosystem: herbivore, carnivore, decomposer, producer, or consumer as we have played for awhile.

**Question:** How does the interrelatedness of food webs affect other populations within the food web?

**Hypothesis:**

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**Follow-Up Questions:** After the lab...

1. My organism was.... \_\_\_\_\_

2. The following were a part of my food web...

_____	_____
_____	_____
_____	_____

3. What did you find happened if a species were removed from the food chain?

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4. What happened when the Sun pulled on its string?

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5. When some organisms became "extinct," who was affected and how?

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6. What do you think would happen if the predators were removed from the food web?

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7. **Conclusion:** Was my hypothesis correct? Why or Why not?

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**Line of Learning (LOL):**

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**I shared with my neighbor about what I learned today.**

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**My neighbors autograph**