

## Lesson 5: Connected Critters

### Objectives:

- Discuss the interconnected relationships and flow of energy among plants and animals in ecosystems through food webs

**Timing and Implementation:** 60 minutes. Indoors. After 3 week camera deployment period.

### Materials:

- Ball of yarn or string
- Dot Plot from Lesson 2
- Cards from Lesson 4
- Food web cards in Appendix (optional)
- Previously filled out Habitat Happening worksheet (optional)
- Candid critters [Field Guide](#)

### Introduction and Background:

Students will use their camera trap data and habitat audit worksheets (or cards in the Appendix) to investigate how the animals detected on their camera traps interact with each other and how “intact” the food web of their school is.

### Procedure:

1. Show a Brain Pops video about [food chains](#) and [energy pyramids](#) (optional, if you have access). Discuss what humans eat and guide the discussion to how organisms obtain energy.
  - *What did you eat for dinner last night?*
  - *What do you think that (chicken, cow, pig, etc.) ate?*
  - *If processed food – what is it made of?*
  - *What do fruits, nuts, seeds, or vegetables need to grow?*
2. Students will use the cards of unique mammals they found on their camera trap from the previous lesson and use additional blank notecards to write organisms they have seen in their school yard through the habitat audit or on their way to school. They can also use evidence of organisms (e.g. they found deer scat so they know deer are present).
3. Assign each student one card with a unique organism on it. Students will circle around the teacher, facing the center of the circle, showing their cards for everyone to read.
4. The teacher acts as the sun, holds onto the end of a ball of yarn and tosses ball to a student assigned one trophic level up. Before tossing, the teacher states relationship between the two.
  - *Example: I am a the sun and I am the primary source of energy for the (name of plant).*

5. The student catches the ball and holds onto part of the yarn and tosses ball to another student assigned they view as a primary consumer. Before tossing the ball of yarn, student states the relationship between organism they hold, the organism they received the yarn from, and the organism they are tossing the yarn to.
  - *Example: I am a rabbit. I am an herbivore and get my food/energy from (name of plant). I am eaten by a fox.*
6. Once one food chain is complete, stop and review food chain components. Continue the process above trying to connect as many students as possible until a food web results. Iterate through several different food chains starting at the beginning (at the sun or a producer) each time.
7. End activity by discussing what students notice about the food web.
  - *What is the difference between a food web and chain?*
  - *What organisms are missing from the food chain/web from our camera trap data? Why?*
  - *Are there mammals missing from the camera trap data? Why? **Top predators are likely to be absent in most data sets, as cougars and wolves have been extirpated from North Carolina (except red wolves in very restricted areas). Camera traps do not capture all of the mammal community like mice and bats.***
  - *Why is biodiversity important?*
8. As a class come up with generalizations about organisms in each trophic level. In general there are more producers than herbivore, more herbivores than carnivores and very few top carnivores.
  - *Does the camera trap data represent what we would expect from a food web? Why or why not?*

**Extension Option:**

- Repeat the above activity using the prepared cards in the Appendix. Have students compare their camera trap food web to this one. Discuss the results using similar questions to the one above.

**Evaluation Option:**

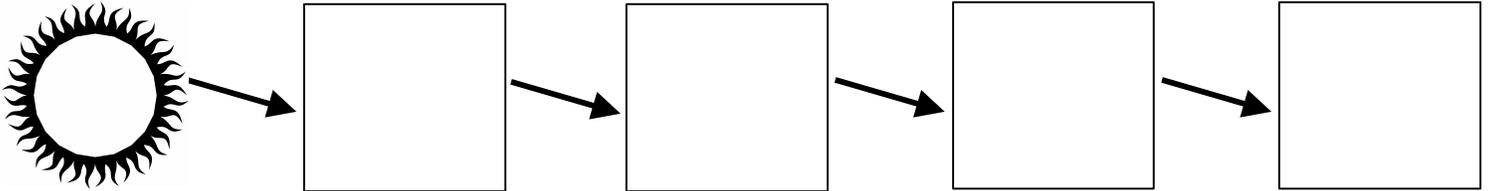
- Have students make their own food chain or food webs using the worksheet provided. You can assign students to make their own, or vary it by assigning a different ecosystem or use the cards provided in the Appendix.

# Food Chains and Food Webs

Name: \_\_\_\_\_

Directions: In the boxes below, write the name of or draw the animals from the food chain you created. Label each organism as a producer, primary consumer, secondary consumer, or tertiary consumer. Pay attention to the direction of the arrows!

1. What do the arrows in a food chain represent?



2. What is the purpose of including the sun in this food chain?

Directions: In the boxes below, write the name of or draw the animals in the food web you created. Start with producers at the bottom. Label each organism as a producer, primary consumer, secondary consumer, or tertiary consumer. Pay attention to arrow direction! You might not use all of the boxes.

